

INSTRUCTION MANUAL

Stand-Alone 8 & 16Channel

DIGITAL VIDEO RECORDER

MODEL DV0890, DV1690

Ver. 010313



CLOVER
ELECTRONICS U.S.A.

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Preface

This manual contains user instruction on how to operate the Digital Video Recording device (DVR Unit), Remote Controller, Client Application, Mobile Application and Central Monitoring Software Application.

This manual also contains cautions and notification regarding safe operating parameters to protect the equipment and equipment operator. Please read this manual and comply with its suggested guidelines for proper operation of this equipment.

For any further concerns and question please inform sellers for further information.

Please properly retain this copy of the manual for future reference.

About This Guide

This guide is comprised of Table of Contents where you will find Chapters divided logically discussing about particular topics. Then it is further divided by sections that discuss more detailed discussion pertaining to certain features of Chapter topics.

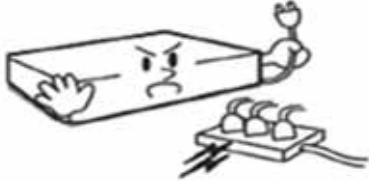
This manual also includes Index section where popular subjects or key concepts are referenced by page numbers where those topics are discussed.

What this manual is not discussing are topics about upgrades and repairing physical unit. These should be done through seller's authorized repair centers or by detailed direction from seller. Upgrades and repairs consists of adding and removing Hard Disk Drive, adding and removing other media drive, upgrade or downgrade the Firmware, replace any electronic components inside physical units. These actions should be under the guidance of qualified technician because improper actions may cause permanent damages to the unit. Some drives also have compatibility constraints and they are constantly being updated as new products emerge from drive manufacturers.

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Warning

Check if the power is switched off before installation. Don't plug in at the same time. Otherwise it may be set on fire or put you at the risk of electrocution or damage.



Check if the power is switched off before installation or additional repair. Never plug in while the device is in operation. Otherwise it might be set on fire or put you at the risk of fire, electrocution and damage.



Keep the cables at least 15 centimeters away from the wall and at least five centimeters away from the side so that the cables, including power line and video cable, may not be disfigured. Otherwise it might put you at the risk of fire, electrocution and damage.



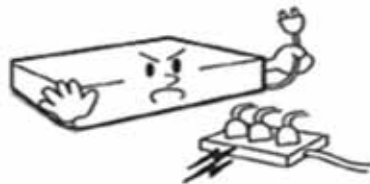
Never uplift the cover, break down, repair and maintain at your disposal. Otherwise it might put you at the risk of fire, electrocution and damage.



Keep the device environment always clean before and after installation of the device. Use dry cloth to clean the device. Never use any organic solvent. Otherwise it might be the cause of electrocution or mechanic disorder.



Input voltage of the device should come within the range of 10 percent of specified voltage. Use separate wall power to keep heating appliances, including hair dryer, iron and refrigerator. Otherwise it might be the cause of fire and electrocution.



When strange noise or smell is sensed, immediately plug out and send inquiry to service center or seller.



Do not install device in humid place filled with dust. It might be the cause of electrocution and fire.



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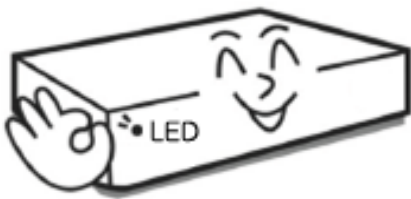
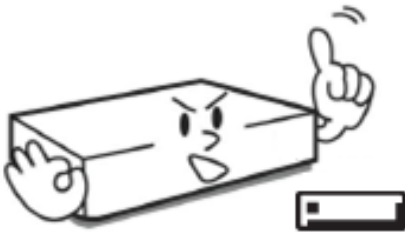
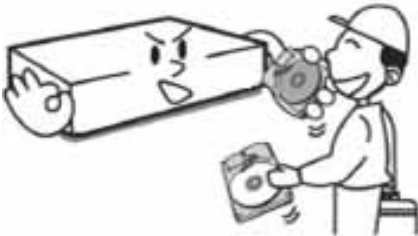
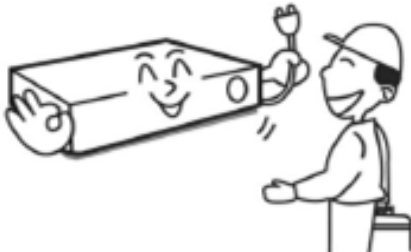
Caution	
<p>Do not install the device in any place where strong magnetic flow, electric wavelength and vibration may be sensed or where radio, TV or other wireless device is located. Keep the device away from magnetic flow, electric wave or vibration.</p>	<p>Do not put anything heavy on the product. Otherwise it may be the cause of disorder.</p>
	
<p>Strong shockwave or vibration may be the cause of mechanic disorder. Please be careful.</p>	<p>Be careful so that anything conductive may not fall into the ventilation hole. Otherwise it may be the cause of disorder.</p>
	
<p>Check if power switch and record on the front side of the product is still turned on.</p>	<p>When HDD is overloaded, you change the setting to keep recording. In that case, check again if it would be OK to eliminate the saved data.</p>
	
<p>When HDD saving data gets old enough, video data to be saved may suffer so much damage that it may be irreparable. If screen appears broken while regenerating data saved in HDD, it means HDD won't work any longer. Immediately contact service center to replace them.</p>	<p>When any abnormal sign is detected, immediately contact seller or service center.</p>
	

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1 — Summary

Feature

This Stand Alone Digital Video Recorder is capable of high quality of video and audio data recording and provides various ways of data search by Calendar, Date/Time and event. Also the system allows remote user to access in order to monitor and control multiple local DVRs via TCP/IP / LAN connection.

Main features

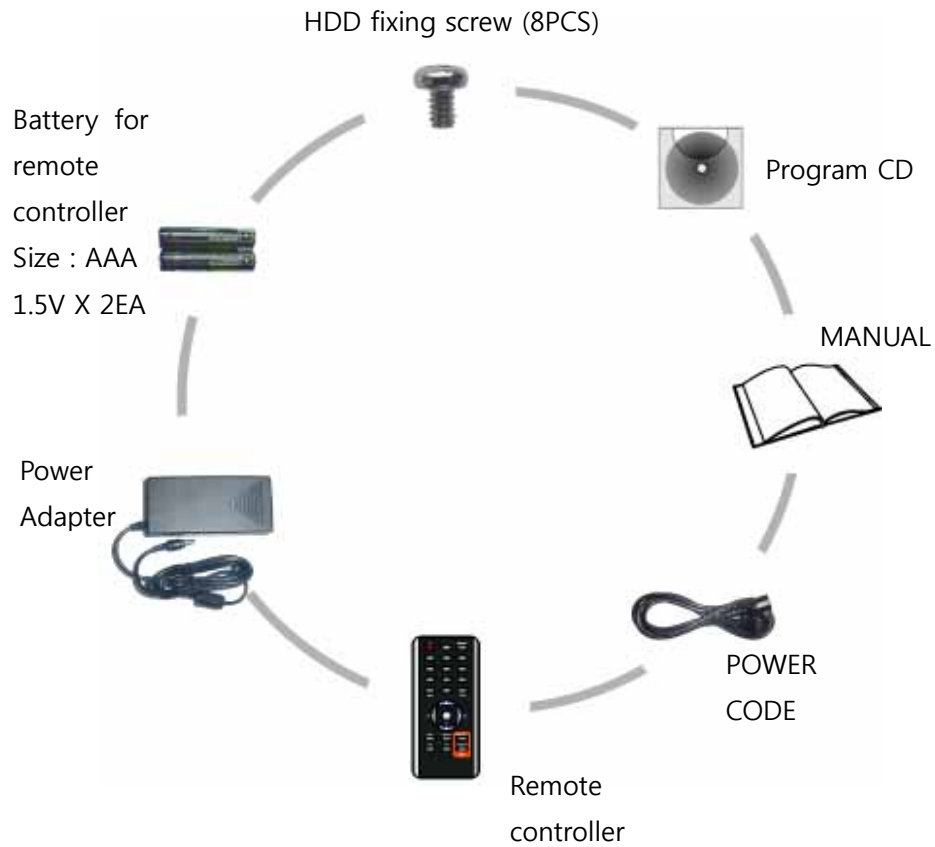
- (1) High resolution live display
- (2) Easy installation and operation
- (3) Motion detection record
- (4) Sensor and Alarm outputs
- (5) Reserved recording (Motion, Sensor/Alarm and time selected record)
- (6) Network control via Dynamic IP
- (7) NTSC / PAL compatible
- (8) Highest data compression of H.264 technology
- (9) Data backup to USB memory stick

Application

- (1) Bank, ATM unit, Supermarket, Convenient store and other public places.
- (2) Private homes, Apartment, Jewelry shop, Commercial compound and other places where it needs anti theft surveillance system.
- (3) Warehouse, Production line and other places where evidence is needed after any event happened and to analyze the situation.
- (4) Where to monitor sites remotely

2 — Installation

Contents



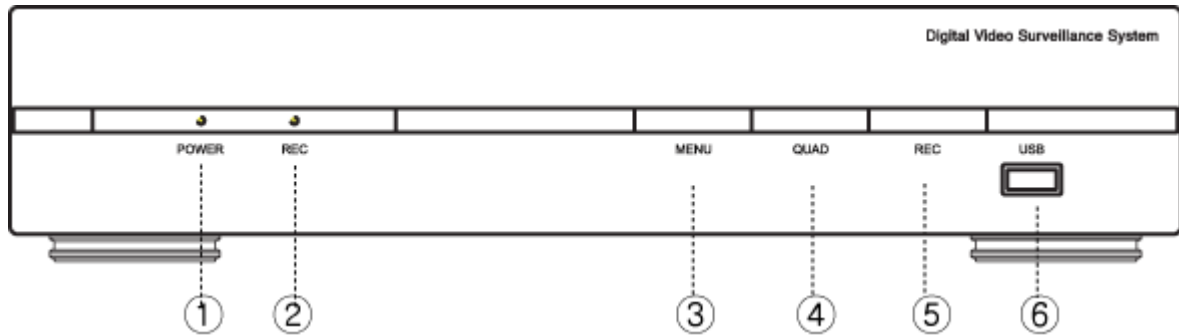
Accessories.

- Digital Video Recorder (1EA)
- HDD Fixing screw (8pcs)
- Program CD (1EA)
- Manual (1EA)
- Power code (1EA)
- Remote controller)
- Battery AAA (1.5V 2EA)
- Adaptor (1EA)

[Note] Check the accessories before use.

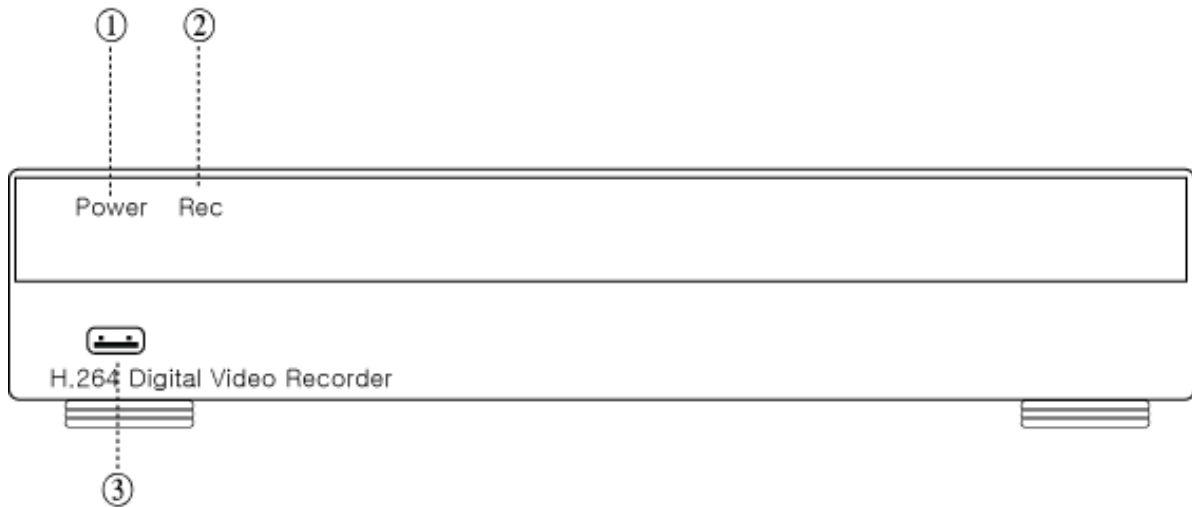
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Front panel



(DV0890)

- [1] POWER LED [2] RECORD LED [3] MENU Button [4] QUAD Button
[5] REC Button (Emergency / Schedule) [6] USB Port

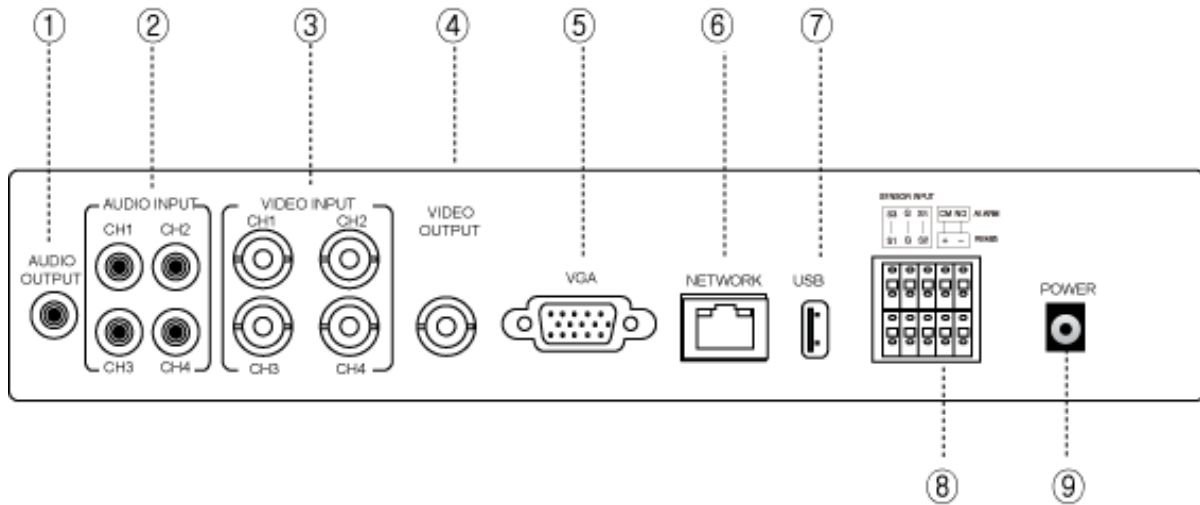


(DV1690)

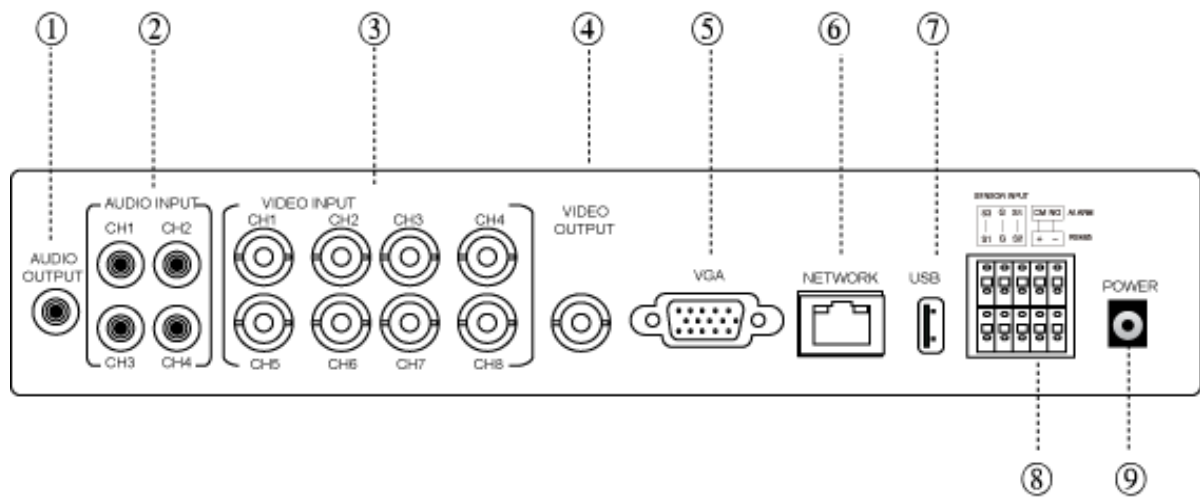
- [1] POWER LED [2] RECORD LED [3] USB Port [4] MENU Button
[5] QUAD Button [6] REC Button (Emergency / Schedule)

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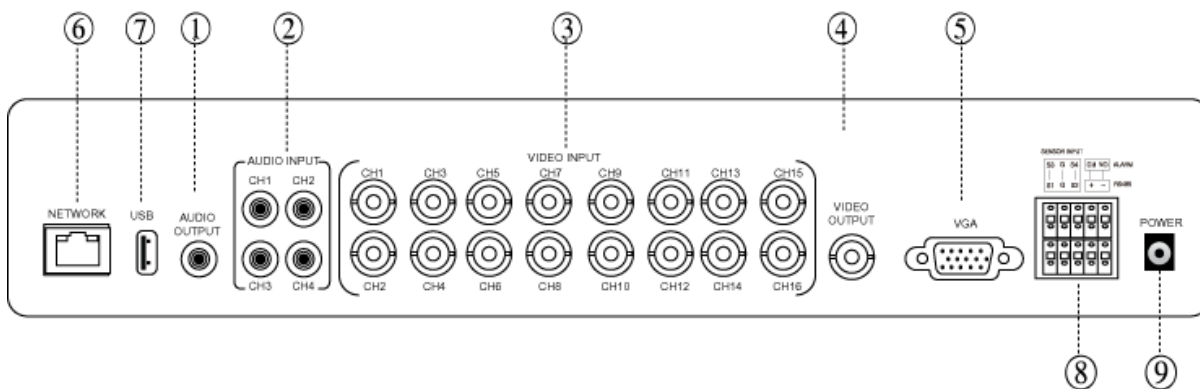
Rear panel



(4Ch DVR)



(8Ch DVR)



(16Ch DVR)

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[1] AUDIO OUTPUT

[2] AUDIO INPUT

[3] VIDEO INPUT

[4] VIDEO OUTPUT (COMPOSITE)

[5] VGA OUTPUT

[6] ETHERNET PORT (RJ-45)

[7] USB PORT (USB Drive / Mouse)

[8] RS-485/ALARM/SENSOR

[9] POWER (ADAPTER)

3 — System Operation

Icon

[1] The icons on the live screen indicate the status.



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[2] Camera title will be shown as above.



[3] Recording Status Icon



Recording.



Video Loss.



Motion Detection.



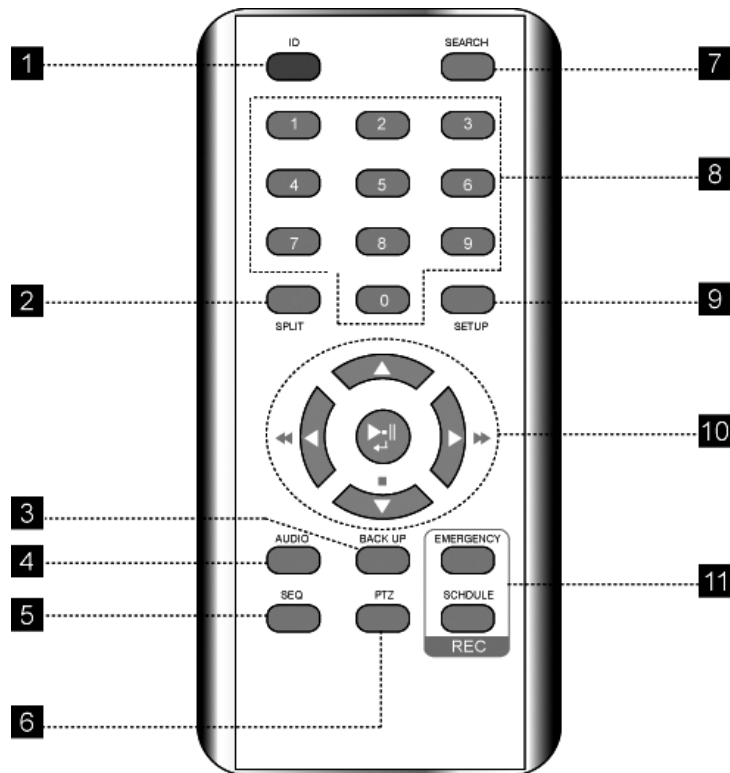
Sensor.



[4] Status Bar

1. Date / Time
2. Record mode : Emergency recording - "ER", Scheduled recording - "SR".
3. Key Lock / Network Connectivity status.
4. Hard Disk status.

Remote Controller



[1] ID (Remote controller ID) : Press to select a remote controller ID in case of using one remote controller to multi DVRs.

[2] SPLIT : Press to see split mode. Once press "▲" button, split mode can be changed and press "▶" button to change channel group.

[3] BACKUP : Press to start recorded data archiving to external media.

[4] AUDIO : Select a audio channel.

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- [5] SEQ (Sequence) : Press to display each camera in sequence for specific duration.
- [6] PTZ : Call PTZ control menu.
- [7] SEARCH : Call search menu to playback recording image.
- [8] CHANNEL / NUMERIC BUTTON : Input the channel number to make full screen mode or the number in setup menu.
- [9] SETUP : Press to call setup menu
- [10] DIRECTION KEY / CONFIRM BUTTON / PLAYBACK CONTROL
- [11] REC : Select recording mode.

How to setup the remote controller ID

In order to use remote controller, the ID must be same both DVR and remote controller. By assigning DVR ID, it allows the user to control multiple DVRs with one remote controller.



- [1] Check current system ID and can be changed by user. (Factory default ID: "0")
Menu > System > Information > Remote ID (Range: 0 ~ 99)
System ID must be configured on DVR system menu. It cannot change DVR system on remote controller.

[2] How to use remote controller

ID must be identified between remote controller and system. Otherwise remote controller cannot recognize DVR correctly.



[3] Remote controller ID menu displays as above image when you click ID button of remote controller.

- Remote ID : It displays current ID of the system.
- "00" : Input the same ID number of DVR and press "Confirm"

4 — System configuration

System



[1] Remote ID : Assign the ID of remote controller, so that user can separately control multiple DVR unit with one controller. (ID range: 0 ~ 99)

[2] Mouse Resolution : Mouse sensitivity level can be adjusted at user's convenience. (Basic Level 1; Slow speed, Level 1 < Level 2 < Level 3 to increase reaction speed.)

[3] Language : Select a language

[4] Version : To show H/W Version and S/W Version

[5] Health: Indicates storage status

- HardDisk1 : Temperature of HDD.
- Front USB : Temperature of external storage with front USB port.
- Rear USB : Temperature of external storage with rear USB port.

[6] Video Detect Mode : Select a video signal format. (NTSC / PAL)

[7] Video Mode : Display video signal format

[8] WEB Code : DDNS ID for DDNS connection.

[9] MAC Address

Time/Date



[1] Time : Set the time.

[2] Date : Set the date.

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[3] Date Format : Select a Time / Date display format.

[4] Daylight Saving Time : It is commonly called as "Summer time". During the period, user can change system time 1 hour early or late.

[5] Time Server : It helps time set of DVR automatically by synchronization of time server service.

- Time server : Input the URL of server (Default : kr.pool.ntp.org)
- Synchronize Period : Select the period to synchronize between DVR and time server
 - Power On : Try to sync once power on.
 - 12Hour : Try to sync every 12 hours.
 - 24Hour : Try to sync every 24 hours.
 - Off : Disable to sync.

[6] Time Zone : Select a GMT zone.

[7] Apply : Save and apply time / date setting.

Password



(Channel display could be different per model 4ch/8ch/16ch)

[1] ID : ID : Able to input max. 8 user's account. ("Admin" and "User1~7")

[2] Password : Input the new P/W for the selected ID. (Max. 8 digit)

[Note] Default password of all ID is "11111111".

[3] Function : Assign user's function on each account.

- Configuration
- HardDisk
- Search
- Backup
- PTZ Setting
- Record Key
- Camera

Hard Disk

It is the HDD and ODD setup. Since it is closely related to the record, if the setup is wrong, it may cause the mal functioning.



[1] Hard Disk List : It shows the HDD information

- Hard Disk1 : Capacity of hard disk drive
- Front USB : Capacity of external drive on front USB port.
- Rear USB : Capacity of external drive on rear USB port.
- Erase Data : Format the disk.

[2] Total : Display total capacity of HDD (Used size / Available size)

[3] Erase Data : Delete a recording date on selected disk.

[4] Auto delete : The function is to keep recorded data in HDD during only for specified period.
(Range: 1~120days)

[5] Advanced : Select a purpose of each device among "Main Disk", "Mirror Disk", "RW Write" then "Apply" to reboot system.

[NOTE] "Mirro Disk" or "RW Writer" purpose is able to setup when the external device is connected with DVR via USB port.

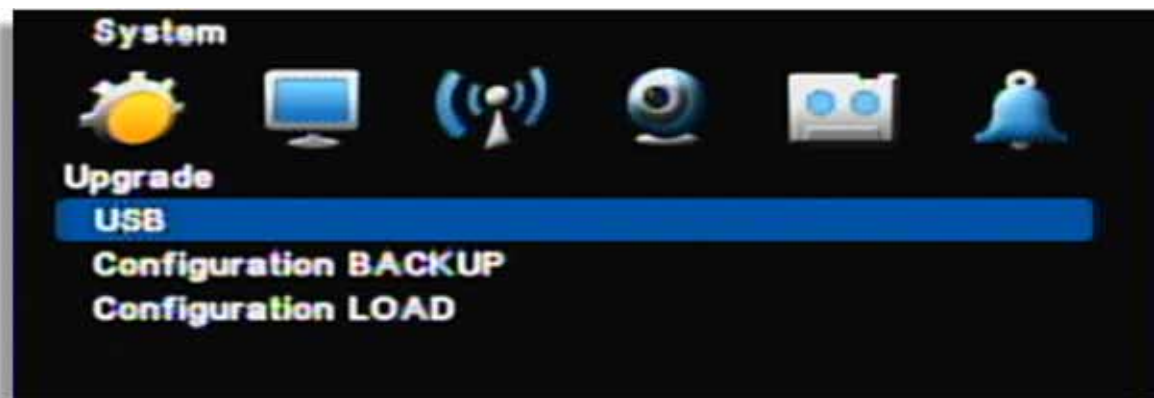
Default Setup



[1] Default Setup : Except major configuration (Network, Password), parameters are initialized.

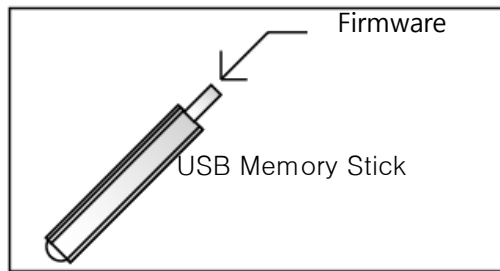
[2] Factory Setup : All parameters are initialized.

Upgrade



[1] USB

In order to upgrade system firmware with USB memory stick, the firmware file must be saved in the USB storage first and then insert to DVR to start USB upgrade from the menu.



[NOTE] Do not turn off power or remove USB stick while the upgrade is in progress.

[2] Configuration Backup : Save a configuration file of DVR.

[3] Configuration Load : Upload a configuration file to DVR.

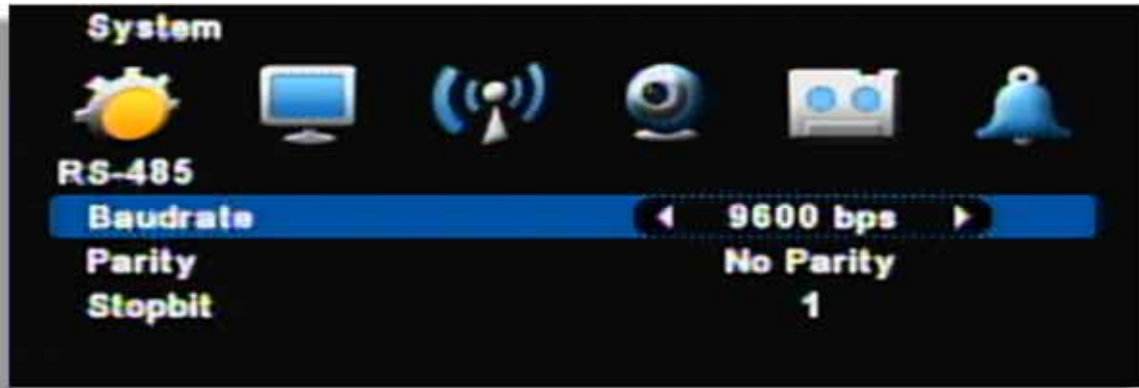
Button Setup



- Auto key lock : There is no key input during specific time, system locks the button automatically. In order to unlock, input the password. (10 sec. 30 sec. 1 min. OFF)
- Key Beep : If you select ON, beep sound occurs

RS-485

In order to control the PTZ camera or control keyboard, DVR supports RS-485 port.



√ Baudrate /Parity /Stopbit : For using RS-485 port, refer to the manual of "Keyboard" or "PTZ camera".

5 — DISPLAY

OSD



[1] Camera Title : ON / OFF

[2] Status Bar : ON / OFF.

[3] Multi screen Border : ON / OFF

[4] Login Display : Select a login option

- As Per Last Login : Display live image after system rebooting.
- Cover All Camera : Do not display live image after system rebooting.

[5] Log in menu : Select a log in option.

- Always from boot : Input the password after rebooting.
- Boot after lock : Auto login after rebooting.

[6] Alphablending : Select the transparency level of menu background.

SPLIT MODE

Channel can be switched into another by selecting split mode or a channel.

Channel display can be different per each model

[4 Split]



Displayed in 4/8/16ch

[6 Split]



Displayed in 8/16

[9 Split]



Displayed in 8/16ch

[13 Split]



Displayed in 16ch

[16 Split]



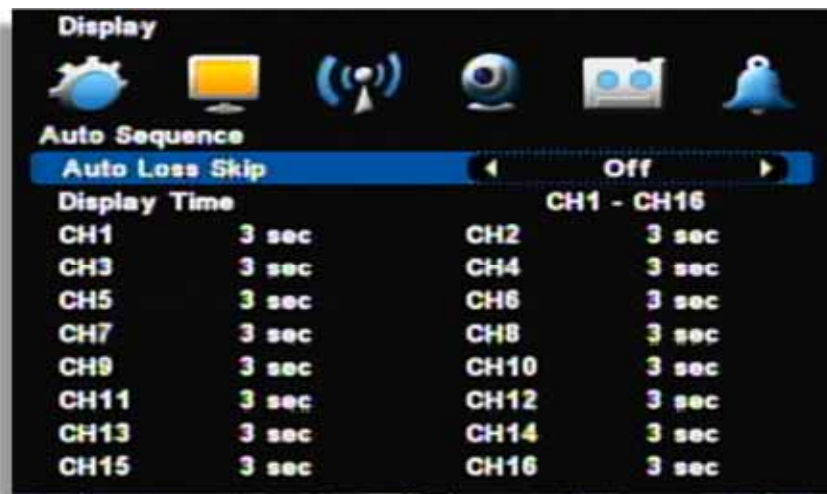
Displayed in 16

[Note]

Various split screen switch

If you press UP direction key in live mode, the split mode is changed. And if you press the RIGHT direction key, the split group is changed. (There is 1ch full screen and 4 split in 4ch DVR.)

Auto Sequence



- Auto Loss Skip : If there is no video input, it skip video loss channel.
- Display time : Select a display duration while sequencing (1 sec. ~30 sec.)

TV Adjustment



[1] Monitor : Output is fixed with 4:3 ratio.

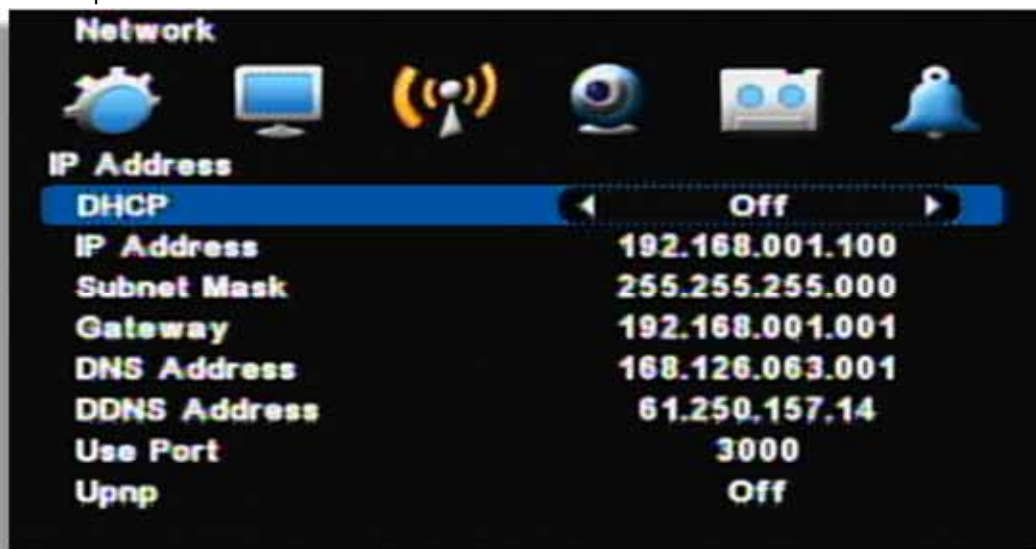
[2] Icon : Change the icon position.

- Small : When using small monitor.
- NORMAL : When using normal monitor
- VGA : When using the monitor for VGA

6 — NETWORK SETUP

IP Address

It is the system setup for remote monitoring or backup and it needs the network setup of DVR. The user must know whether their internet is dynamic IP(DHCP) or fixed IP. Please check it to your ISP before setup.



[1] DHCP : "ON" for dynamic IP user.
"OFF" for static IP user.

[2] IP Address : Input the IP address.

[Example]

- IP address : 61.250.152.050
- Subnet Mask : 255.255.255.000
- Gateway : 61.250.152.001
- DNS Address : 164.124.101.002

[3] DDNS Address : Do not change the DDNS server IP (61.250.157.14)

[4] Use Port : Default port is 3000.

[5] Upnp : If a router supports Upnp, it automatically set port forwarding.

[NOTE] In case of using the router, the user should make port forwarding.

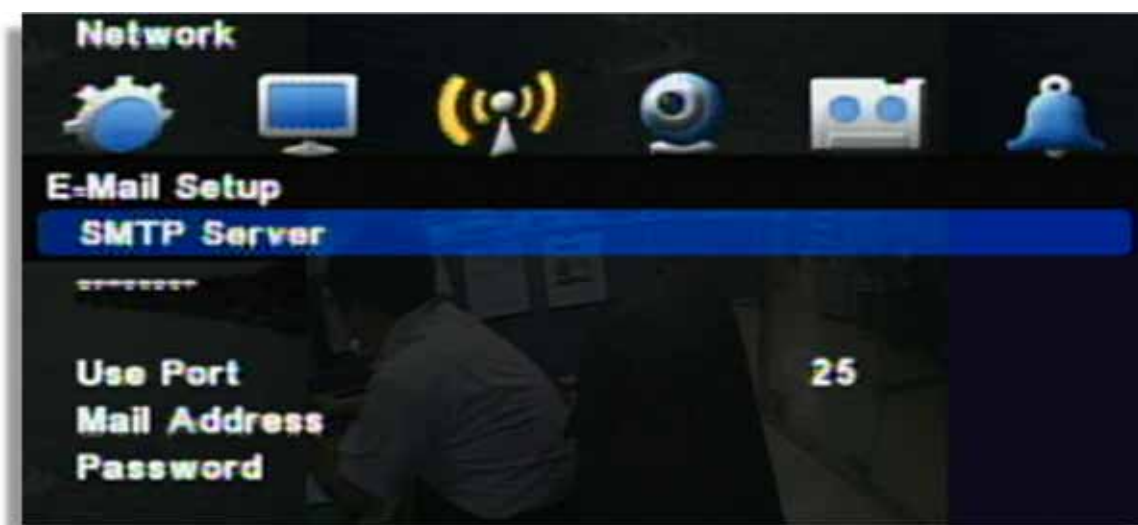
The port forwarding function is described on the router manual.

Notification

When an event is triggered, it is notified to the user.

E-Mail Setup

It's a basic setup to send E-mail, so if it is not correct, e-mail couldn't be delivered. So be careful to make Setup correctly.



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[1] SMTP SERVER : Designating the mail server sending a mail. Input the mail server address a user uses.

[2] Use Port : Mostly 25 is used to a mail server. Check the port when it doesn't work after Setup.

[3] Mail Address : Input the e-mail address of receipts (Available up to max 3 people)

[4] Password : When sending an e-mail in case ID & password input are necessary, set the ID & password.

Selecting E-mail Notification

Select which type of notifications you are going to use.

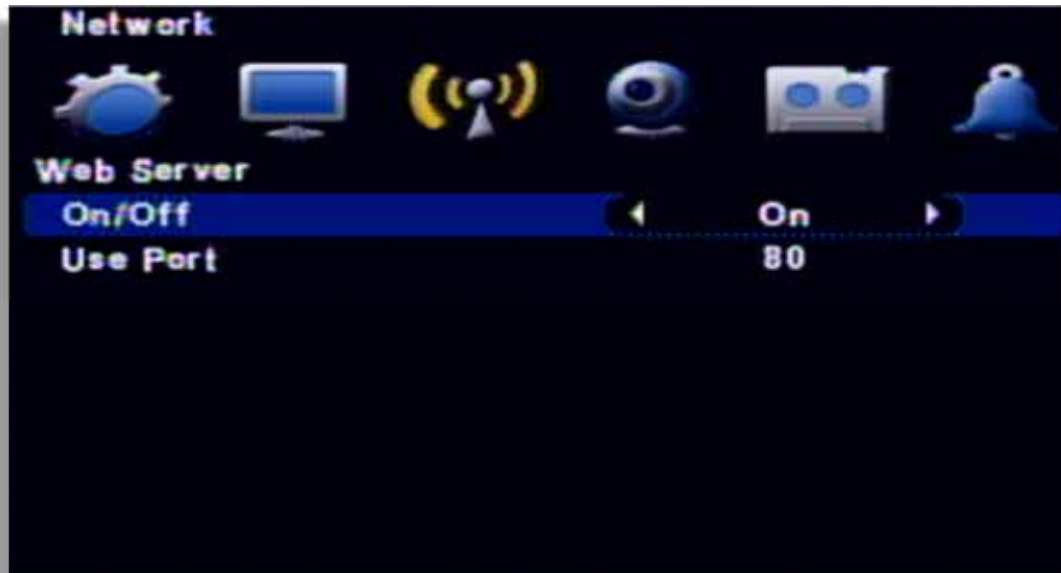


Notification type : You can select the type for E-mail notification.

- Alarm : E-mail is sent with still image when an alarm occurs
- Sensor : E-mail is sent with still image when triggering a sensor
- Motion Detection : E-mail is sent with still image when detecting a motion.
- Video Loss : E-mail is sent when video input is lost.
- Power On : E-mail is sent when power is on after off.
- Password Modify : E-mail is sent when the system password is modified
- HDD Error : E-mail is sent when HDD error happens

Web Server

Built-in web server make user can connect the DVR remotely on the Internet Explorer.



[1] ON/OFF : Select 'ON' to use remote N/W connection through web.

[2] USE PORT : Port for remote connection.

[Example]

In case of using IP 61.250.157.50 and Port 2001, type <http://61.250.157.50:2001> on the address input of browser.

Free DDNS

Free DDNS is used for remote connection through private DDNS service.

Firstly, go to <http://www.dyndns.com> and create an account. Then, if your system is installed with a router, you must make DMZ setting in the router setup for the IP your system has.

DMZ is a function to open all the ports for the selected IP.

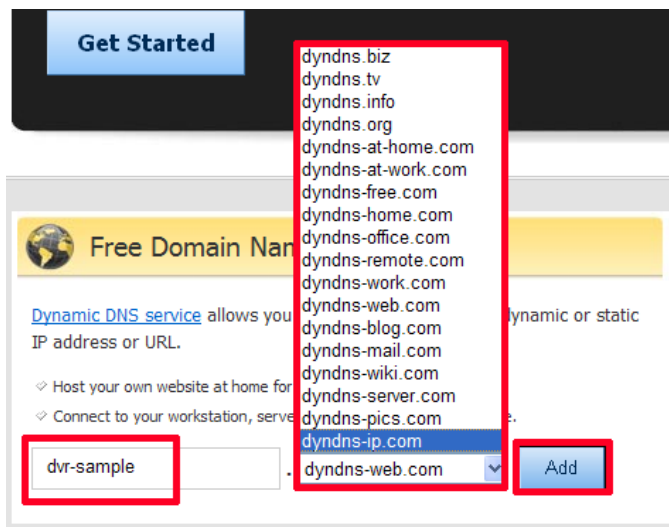
For example, here is the way how to create an account with the name of hongkildong.

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[1] For creating an account, visit the website: <http://www.dyndns.com>



[2] After creating sub domain name(example:dvr-sample), select the main domain name using with free. A user can select any domain name convenient to oneself. Then, click the "ADD" button.



[3] Then, input the detailed user information. After filling in user name, password and e-mail address, etc., then click "Create Account" button. For e-mail verification, receivable e-mail address is required.

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Create account or log in to continue checkout:

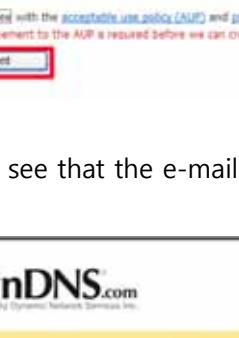
Username

Password

Confirm password

Email

Confirm Email

Security Image

Enter the numbers from the above image:

Subscribe to
 DynDNS.com newsletter (1 or 2 per month)
 Dyn Inc. press releases

I agree with the [acceptable use policy \(AUP\)](#) and [privacy policy](#).
Your agreement to the AUP is required before we can create your account.

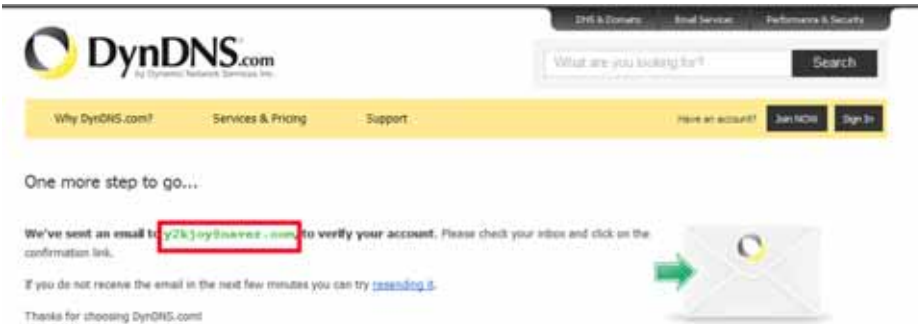
Already Registered?

Username

Password

[Forgot your password?](#)

[4] When you see that the e-mail has been sent to you for verification, then check the e-mail.



[5] After opening the verification e-mail, if you click the linked part, the verification is proceeded automatically.

Your DynDNS.com Account 'hongkildong' has been created. You need to visit the confirmation address below within 48 hours to complete the account creation process:

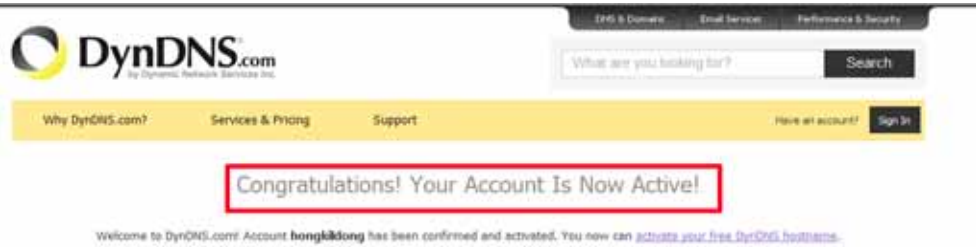
<https://www.dyndns.com/confirm/create/7rlxBDM8xrijmarhmoJrJJA>

Our basic service offerings are free, but they are supported by our paid services. See <http://www.dyndns.com/services/> for a full listing of all of our available services.

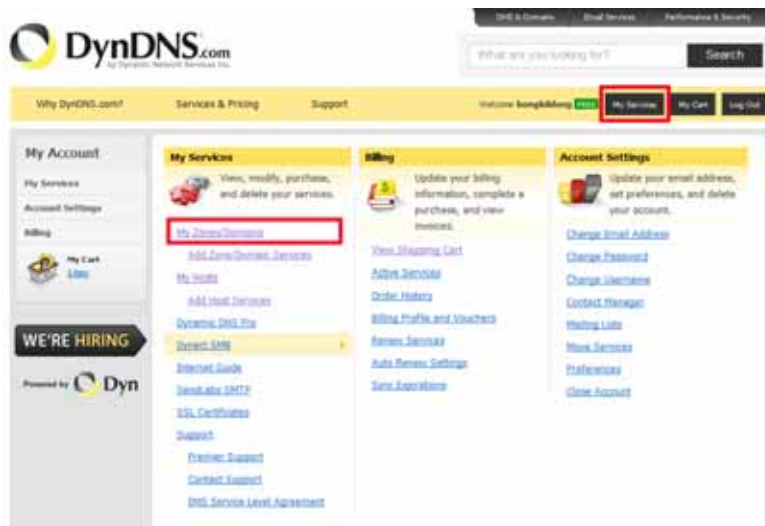
If you did not sign up for this account, this will be the only communication you will receive. All non-confirmed accounts are automatically deleted after 48 hours, and no addresses are kept on file. We apologize for any inconvenience this correspondence may have caused, and we assure you that it was only sent at the request of someone visiting our site requesting an account.

Sincerely,
The DynDNS.com Team
Dynamic Network Services Inc.

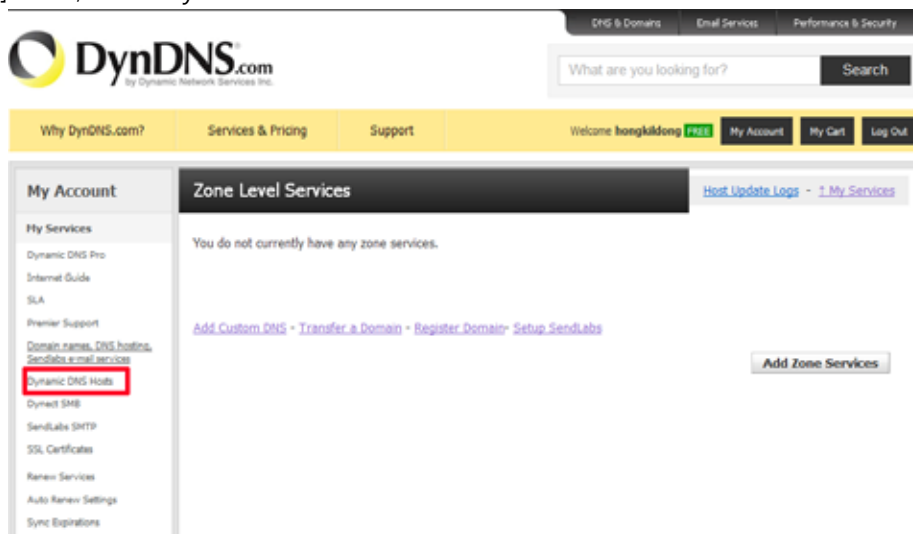
[6] If the e-mail verification is completed, you are entered into following website.



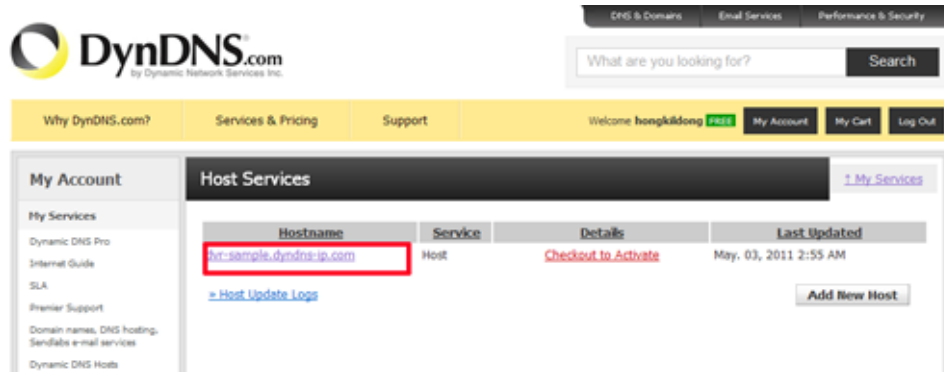
[7] After log-in, click "My Zones/Domains" in "My Service" menu



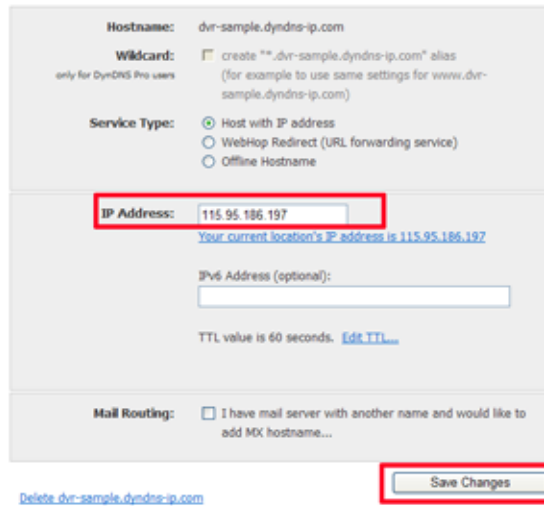
[8] Then, click "Dynamic DNS Hosts" in the menu on the left.



[9] Click the firstly registered domain(dvr-sample.dyndns-ip.com)



[10] Input the public IP of installed router for IP Address. You can find the public IP of the router when you check the router setup. When you complete the input, click "Save Changes".

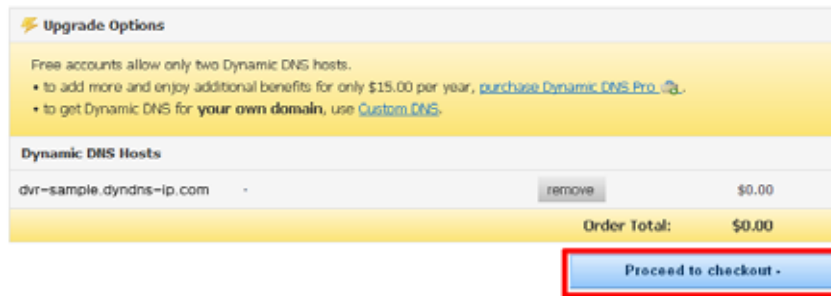


[11] To activate the registered domain, click "Checkout to Activate."



DIGITAL VIDEO RECORDER MANUAL

[12] Then, click "Proceed to checkout" button below.



[13] And click "Activate Services" below.

Once you have confirmed the contents of your cart your services will be instantly activated.

Service	Period	Price
Dynamic DNS Hosts		
dvr-sample.dyndns-ip.com	-	\$0.00
Sub-Total:		\$0.00

[Activate Services >>](#)

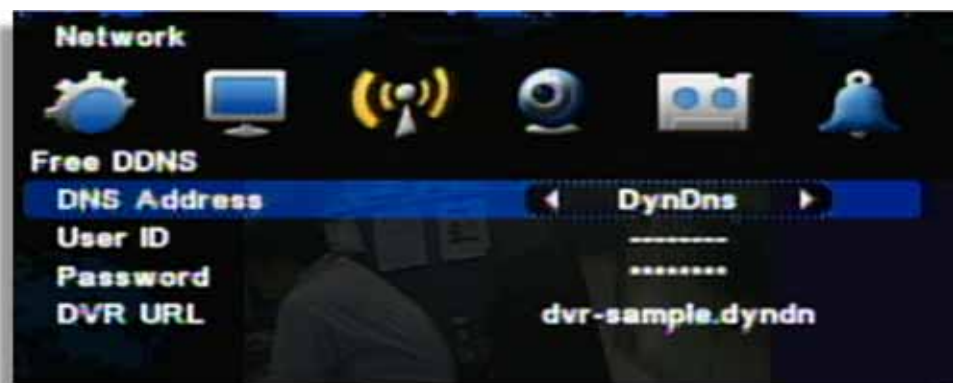
[14] Then, selected domain IP is activated.

Hostname	Service	Details	Last Updated
dvr-sample.dyndns-ip.com	Host	115.95.106.197	May. 03, 2011 3:41 AM

[= Host Update Logs](#) [Add New Host](#)

[» Bulk Update IP Address And Service Type](#)

[15] Input registered information in DVR setup.



- DDNS address : Select the private DNS service name (Select DyDns)
- User name/ Password/ DVR Address : After creating an account in the relevant website, input the ID/ Password/ URL information allocated to DVR setup.

[16] If you input the registered domain in URL address of web browser, then the connection is made.



Note : After making new account, the relevant service would be available after 10~30 minutes

Dual Codec Setup

It is a transmitting function through the extra network transmitting Codec.



- On/ Off : If you want to use it, set ON.
- Channel : Select the channel to set (Available to set per channel)
- Quality : Select the picture quality to transmit
- Speed : Select the frame to transmit
- Total Rec Framerate : Available to allocate per channel within 120FPS (total transmitting speed)

7 — Camera Setup

Camera



- Channel : Select the channel to set
- On/Off : Select whether you use the channel or not
- Brightness / Contrast / Saturation / Hue : Adjust the image of the selected (Default : 50%)

Camera Title

Input a camera title



Multi-language keyboard is supported

PTZ Setting



[1] Channel: Select a channel

[2] ON/OFF : Enable or disable to use PTZ.

[3] MODEL : Select the PTZ protocol or, model

[4] ID : Select the PTZ ID. (For more detail, refer to the manual of PTZ device.)

Advanced



[1] Reverse Control (Pan) : Set the Pan works reverse direction.

[2] Reverse Control (Tilt) : Set the Tilt works reverse direction.

[3] Touring Mode

- Preset Touring : Use touring by DVR setting.

- Camera Touring : Use touring by camera setting. (PTZ camera built-in touring function is available only.)

[4] Setup Preset Touring

It is operable when you select the 'preset touring' from the touring mode' menu.



The touring number is selectable 1~16.

- [1] Touring number : Select the number.
- [2] Preset number : Select the preset number saved before.
- [3] Touring interval (/SEC) : Select the touring dwell time.

[NOTE] PTZ protocol selection

Protocol is PTZ moving driver. The protocol is registered as per the camera model name or protocol name. Please check whether you PTZ is usable for this DVR. The touring is supporting when the camera itself support the touring function.

How to use PAN/TILT

How to call the PTZ menu recall

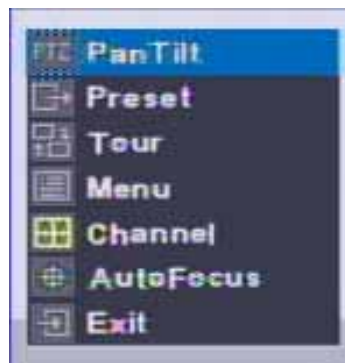
- Mouse menu: Click the right button of mouse and select the 'PTZ'.
- Remote controller menu: Click the "PTZ" from remote controller.

(1) Select PTZ Button on the remote controller



- When you select PTZ button, + shape icon appear. Then move to the channel you want by the direction key.

(2) If you moved to PTZ channel, then after pushing "SET UP" button, select the menu to operate.

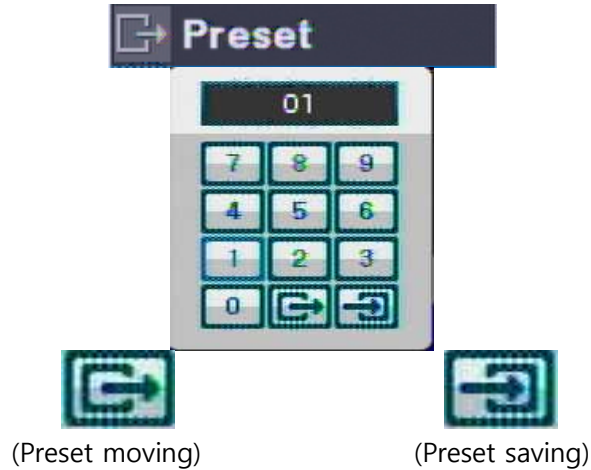


[PTZ control menu]

- PanTilt : Control the direction by the direction key in remote controller.



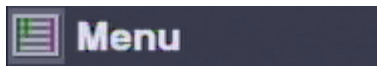
- PRESET = Input the preset number to be moved or saved and select this menu.



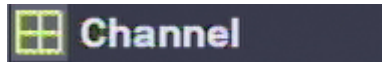
- Tour : It tours as per the saved preset number.



- MENU : It can recalls the PTZ camera OSD menu



- Channel: It is for changing the PTZ channel from the multi channel viewing. Once you select the 'CHANNEL' menu, select the channel to apply the PTZ by moving the direction key and, if you click the CHANNEL again, the PTZ applied channel selection is completed(It applies only on multi split channel)



- AutoFocus : Adjust the focus automatically



- Exit : Escaping the PTZ mode



8 — Record

Record setup

The record setup can be made as per the different channel such as different record frame and resolution etc.

Since the file size is different from the record setup, you have to be careful when you make setup.

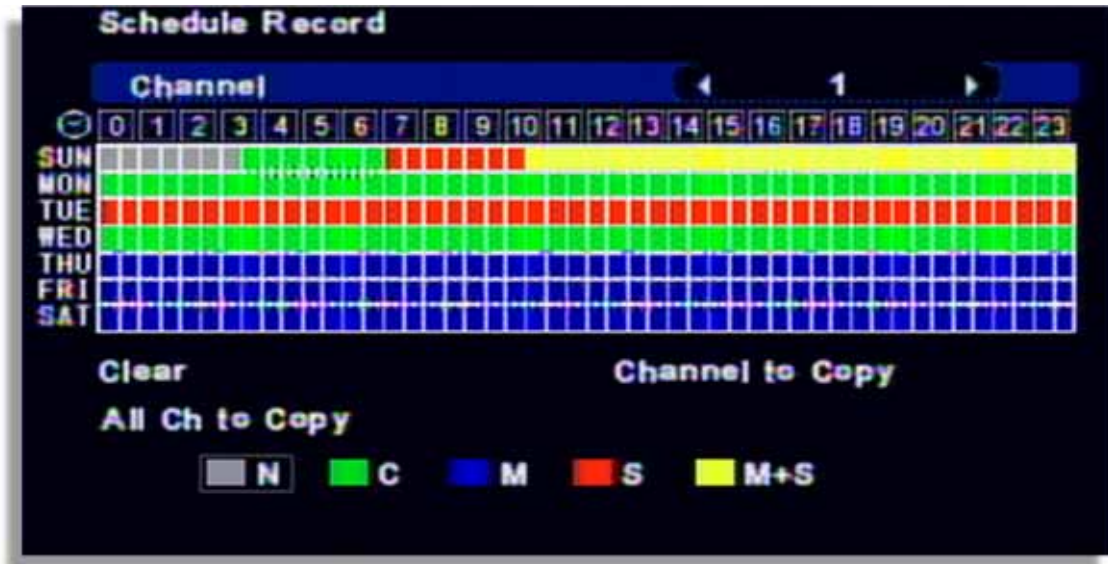


(Channel display could be different per model 4ch/8ch/16ch)

- [1] Channel : It selects the channel.
- [2] ON/OFF : It selects the RECORD ON/OFF of each channel.
- [3] Resolution : It selects the resolution selection.
- [4] Quality : It selects the record picture quality. (HIGHEST > HIGH > NORMAL > LOW > LOWEST)
- [5] Speed : It selects the record frame.
- [6] Post-Recording : It selects how long will be the record made after the event happen.
- [7] Audio Out : It selects the audio out ON/OFF.
- [8] Total Frame rate : It shows the sum of record frame on each channel

Schedule Record

For schedule recording, it can be setup as per the day/date/time and channel.
The record schedule can be setup by an hour.



- N : No record
- C : Continuous record
- M : Motion detected record
- S : Sensor triggered record
- M+S : Motion or sensor record

[How to setup]

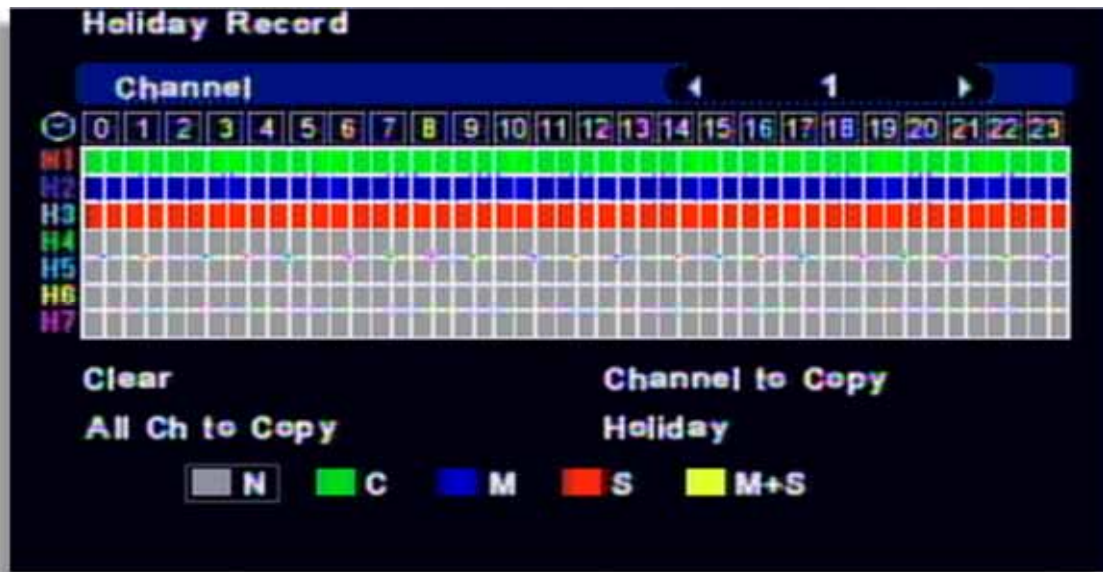
- Select the channel.
- Once you select the day and time, whenever press "Confirm" button, event color is changed in this order. (N-> C -. M -> S -> M+S)
- After select the other date or time and press "Confirm", event color changes.
- Clear : It clears the current date setup.
- Channel copy: Copy the current record setup to the selected channel.
(Escape it by pressing "SETUP" button)
- All channel copy : It copies the current record schedule to all channel.

Holiday Record

Different record can be applied as per different holiday.

[1] 7 different holiday setup can be made.

After selecting the recording type from H1 ~ H7, set by mouse dragging or direction key of remote controller



[2] Select the Holiday from the menu and select the holiday type from H1~H7.

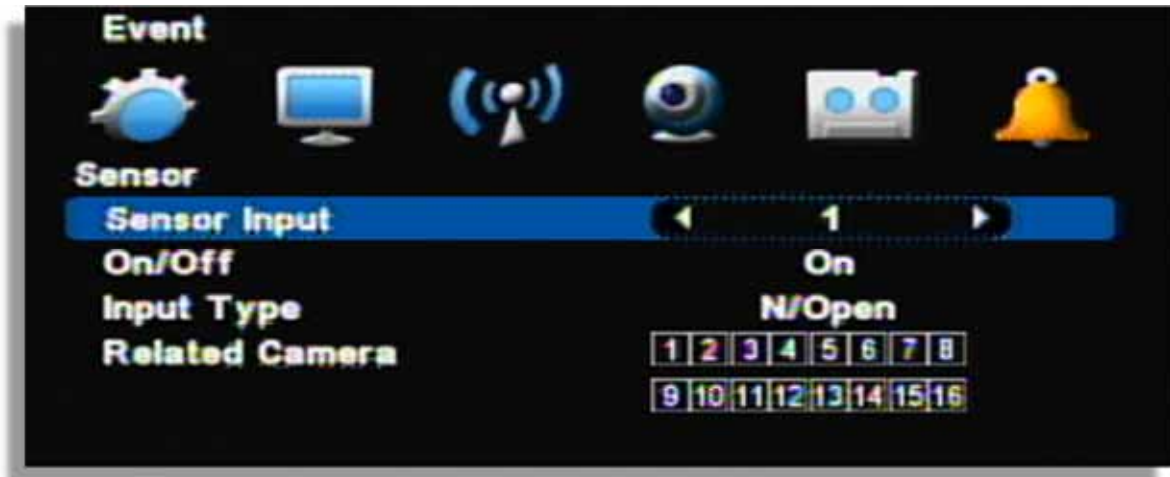


Once you click the date, every times you click, the holiday color will be changed, which means the different record setup.

9 — Event Setup

Sensor

It is for sensor setup.



(Channel display could be different per model 4ch/8ch/16ch)

[1] Sensor Input : Select the sensor input channel.

[2] On/Off : Select the sensor usage.

[3] Input Type: Select the sensor input type.

- N/Open (NORMAL OPEN) : The contact is normally opened but closed when the signal is generated.
- N/Close (NORMAL CLOSE) : The contact is normally closed but open when the signal is generated.

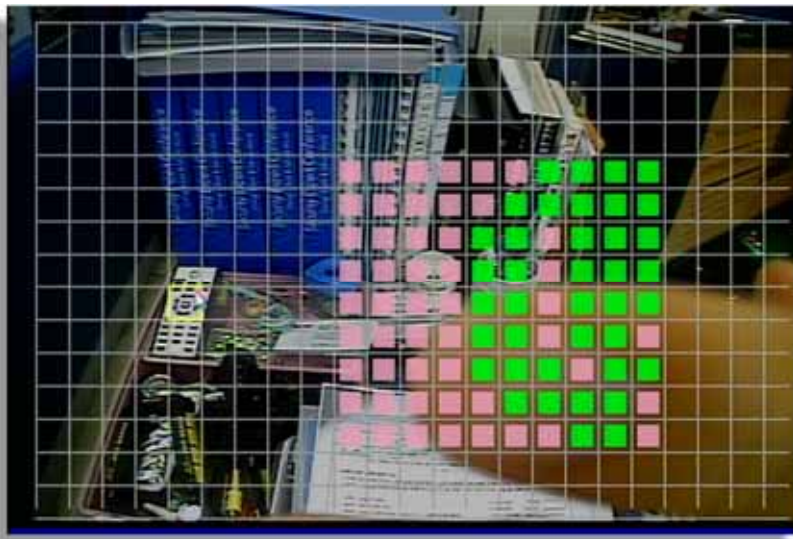
[4] Related camera: Select the camera to be related with sensor. Multi-selection is possible.

Motion Detection

It is the motion detection setup menu.



- ▷ Channel : Select the motion detection channel.
- ▷ On/Off : Select the motion detection usage.
- ▷ Sensitivity : Select the sensitivity of motion detection. Please apply it after the actual testing.
- ▷ Detection Area: Select the motion detection area. (1~5)



The cursor moving by the direction key and if press "enter", this block is designated for motion detection.

- MD selected area : Pink color
- MD non-selected area : Transparent
- If the movement is detected, the color of that area turns green.

[Apply to all] If you use the following key, you can apply or release in one button

"No1" button: Release all

"No 2" button: Select all.

[Using mouse]

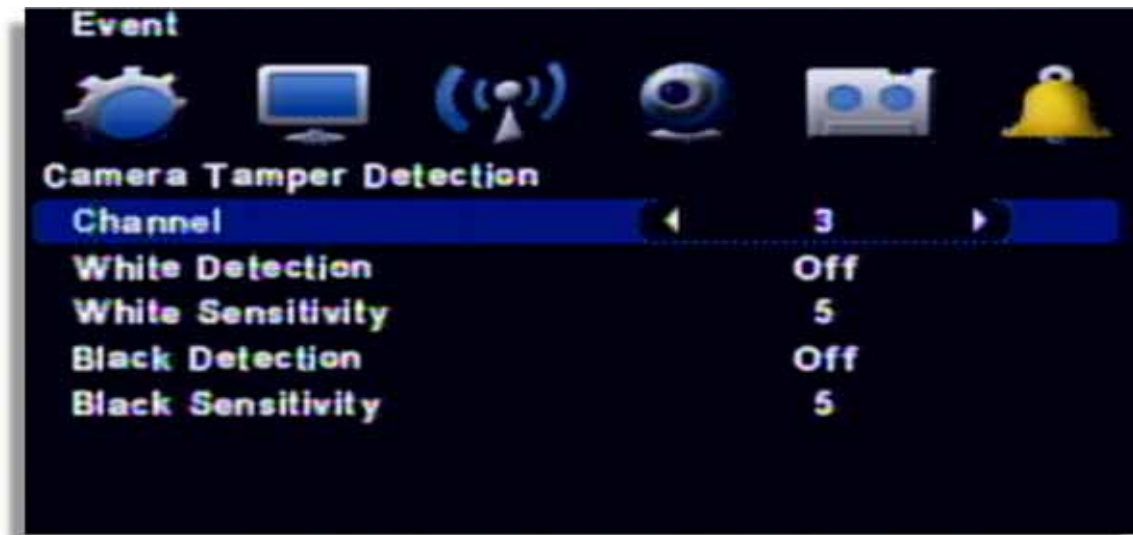
Locate the pointer on start point and click the right button then dragging to the ending point.

CAMERA TEMPER DETECTION

If there is the extra ordinary bright or, dark, it recognize as an event.

If it turns bright by opening the door/window or if somebody painted the camera, it detects as an event.

(This function is operating by using the dual monitor and output is made through VGA)



[1] Channel : Select the channel to use.

[2] White Detection : Detecting the brightening.

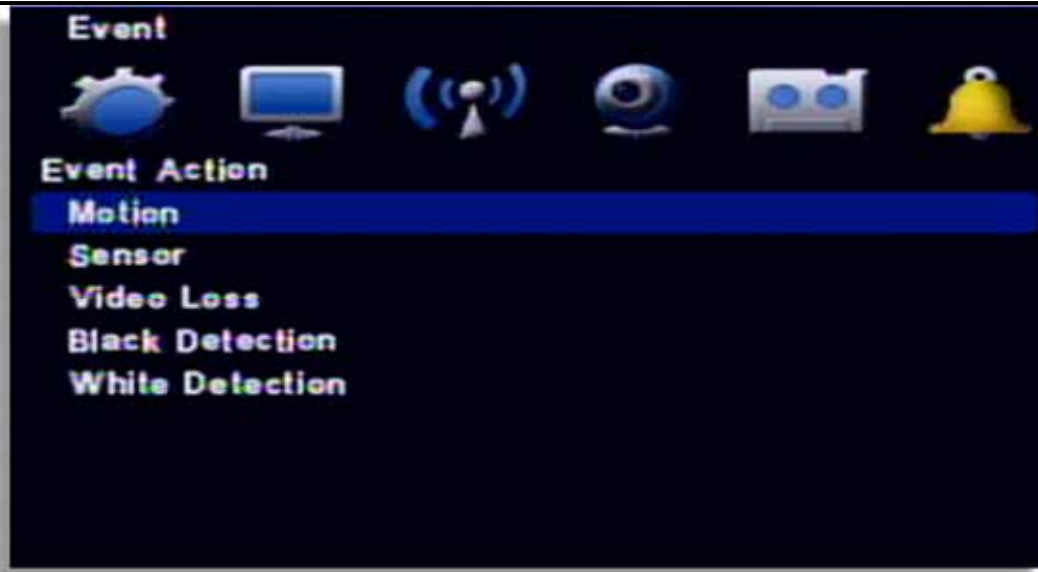
[3] White Sensitivity : Detecting the sensitivity of brightening.

[4] Black Detection : Detecting the darkness

[5] Black Sensitivity : Detecting the sensitivity of darkness.

EVENT ACTION

Event record will be made as per the setup.



[1] Motion : It is the setup for PTZ, pop-up, relay out, buzzer in motion detection

- Channel : Select the channel to apply.
- Preset channel : Select the preset camera being applied for the event.
- Preset number : Select the preset number to move.
- Popup Channel : Select the usage Popup usage by ON/OFF.
- Popup Duration : Popup window floating time.
- Relay out : Select the alarm out
- Relay duration : Relay out duration.
- Internal buzzer : Internal buzzer usage.

[2] Sensor : It is the setup for PTZ, pop-up, relay out, buzzer in sensor triggering.

- Channel : Select the channel to apply.
- Preset channel : Select the preset camera being applied for the event.
- Preset number : Select the preset number to move.
- Popup Channel : Select the usage Popup usage by ON/OFF.
- Popup Duration : Popup window floating time.
- Relay out : Select the alarm out
- Relay duration : Relay out duration.
- Internal buzzer : Internal buzzer usage.

[3] Video loss : It is the setup for PTZ, pop-up, relay out, buzzer in video loss.

- Channel : Select the channel to apply.
- Preset channel : Select the preset camera being applied for the event.
- Preset number : Select the preset number to move.
- Popup Channel : Select the usage Popup usage by ON/OFF.
- Popup Duration : Popup window floating time.
- Relay out : Select the alarm out
- Relay duration : Relay out duration.
- Internal buzzer : Internal buzzer usage.

[4] Black Detection : It is the setup for PTZ, pop-up, relay out, buzzer in Black Detection evt.

- Channel : Select the channel to apply.
- Preset channel : Select the preset camera being applied for the event.
- Preset number : Select the preset number to move.
- Popup Channel : Select the usage Popup usage by ON/OFF.
- Popup Duration : Popup window floating time.
- Relay out : Select the alarm out
- Relay duration : Relay out duration.
- Internal buzzer : Internal buzzer usage.

[5] white Detection : It is the setup for PTZ, pop-up, relay out, buzzer in white Detection event.

- Channel : Select the channel to apply.
- Preset channel : Select the preset camera being applied for the event.
- Preset number : Select the preset number to move.
- Popup Channel : Select the usage Popup usage by ON/OFF.
- Popup Duration : Popup window floating time.
- Relay out : Select the alarm out
- Relay duration : Relay out duration.
- Internal buzzer : Internal buzzer usage.

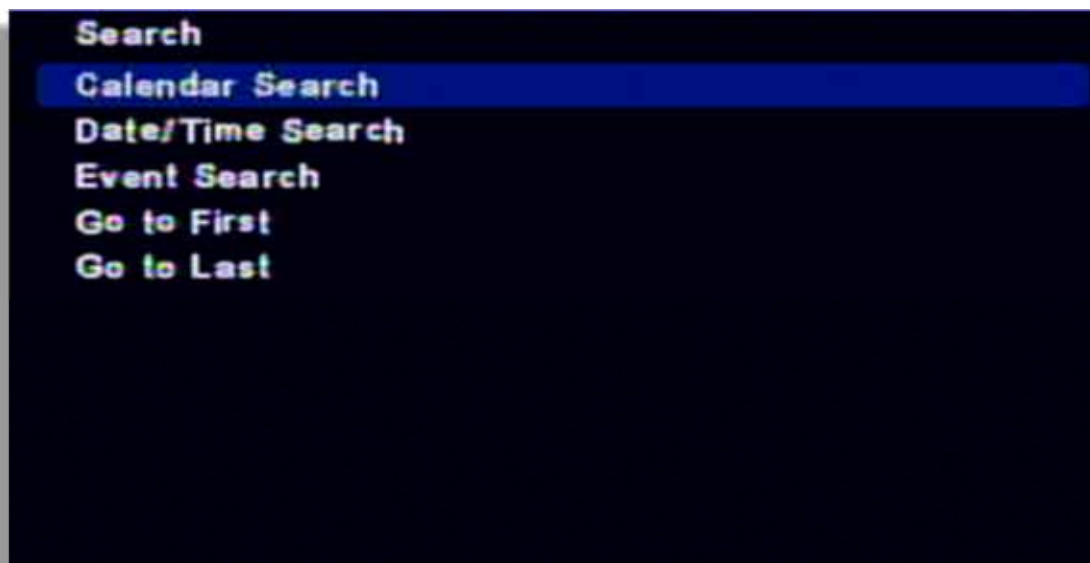
10 — SEARCH

Search

It supports the various ways of search mode such as Calendar, Date/Time, Event, etc.

[1] How to call menu : Select the "SEARCH" from remote controller and right button of mouse.

[2] Search mode selection



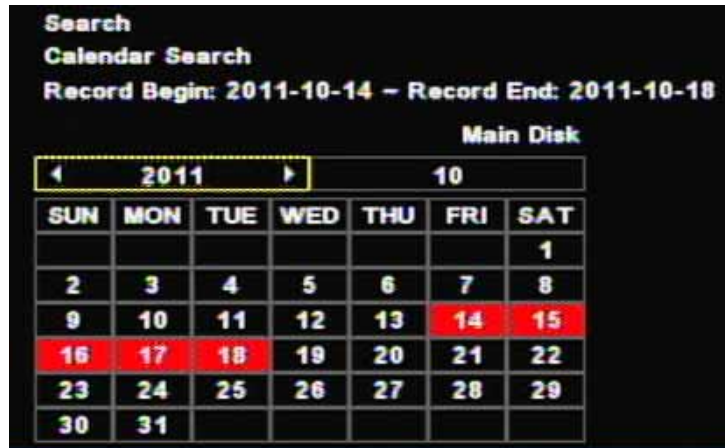
- Calendar search: It searches by calendar.
- Date /Time search: It searches specific Date/Time.
- Event search: It searches as per the event.
- Go to first : It searches the first recorded data on HDD.
- Go to last : It searches the last recorded data on HDD.

Calendar search

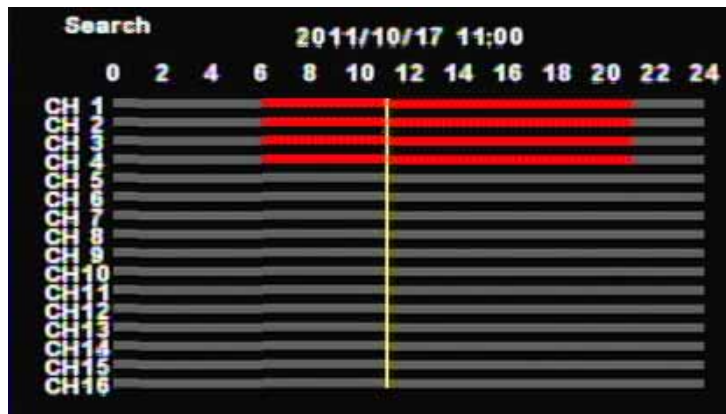
It searches using by the calendar.

[1] If there is the recorded data on DVR, it shows red color on recorded date. Using the direction key, you can change the YEAR/MONTH/DATE.

DIGITAL VIDEO RECORDER MANUAL

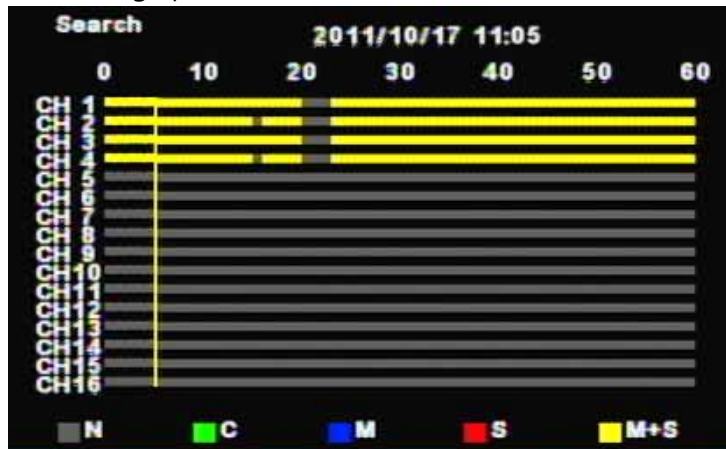


[2] If there is the recorded data, it shows red color so, press the enter button on selected date.



(Channel display could be different per model 4ch/8ch/16ch)

[3] The recorded data shows as a graph and select the minutes to search.



(Channel display could be different per model 4ch/8ch/16ch)

Date/Time search

If you know the specific date/ Time, input the time to search.



- [1] Record begin : It shows the record began time.
- [2] Record end : It shows the record end time.
- [3] Channel : Select the channel to search.
- [4] Play Begin : Input the time to search.
- [5] Play : If you click "Play", it playback the selected time.

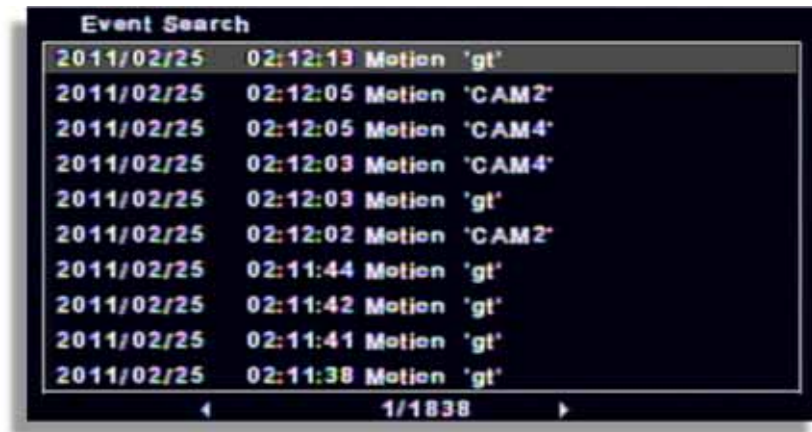
Event search

It searches event recorded data.



(Channel display could be different per model 4ch/8ch/16ch)

- [1] Select the disk to search
- [2] Day : Select the day to search.
- [3] Channel : Select the channel to search.
- [4] Event Type : Select the type of event(MD/Sensor/Video Loss / System/all).
- [5] Search : If you click "Search", it shows the event list and if you click, it playback the relevant image.



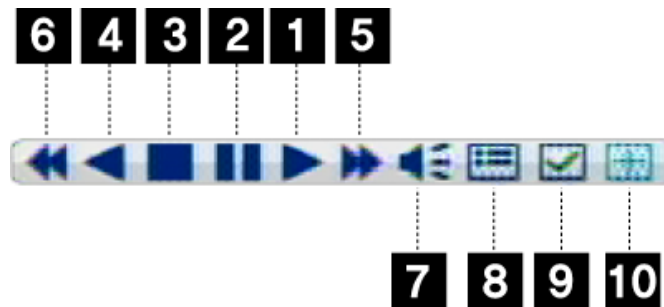
[6] If you select the event list from above, it shows playback.

Go to first / Go to last

It searches the first or last recorded image.

Search control

Description of search button



[1] X1 playback

[2] Pause

[3] Stop

[4] Reverse playback

[5] Playback speed control

[6] Reverse playback speed control

[7] Audio during playback

[8] Calendar search during playback

[9] Mark In-Mark Out : If you click it during playback, it recognizes as a backup start time and if

you click it once again, it recognizes as a backup end time. After this, it moves to the backup menu automatically.

[10] Screen magnifying function in the full screen. (Use Emergency recording button on the remote controller.)

Audio

Audio can be listened in Live or Search.



[1] Menu recall : If you select the "AUDIO" during the live or playback, the audio out menu show up. The menu call is possible by remote controller or mouse.

[2] Mode selection

- OFF : No audio use.
- CH1 : Audio out only from CH1
- CH2 : Audio out only from CH2
- CH3 : Audio out only from CH3
- CH4 : Audio out only from CH4
- Auto : Only selected channel audio out.
- **Volume control** : If the length of bar increase, the volume louder.

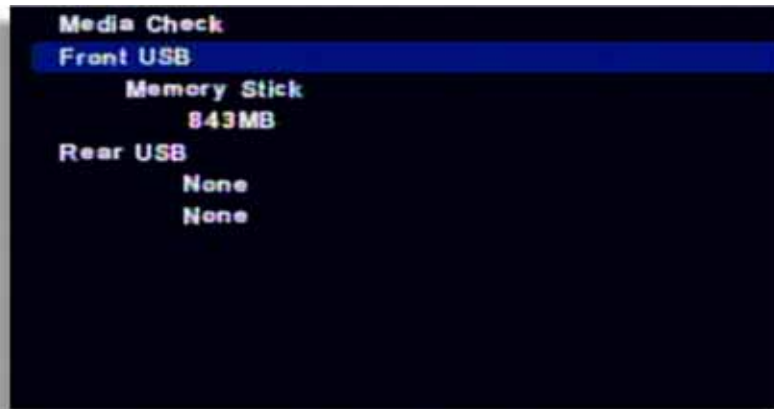


11 — Backup

Backup

Selected image can be backup to the external device(USB). Connect the USB pen drive to the DVR and select 'BACKUP' button from remote controller or, click the right button of mouse.

[1] Select the recognized backup device. If it recognized normal, it shows the device capacity such as "XXX MB".



[2] Select the date from Calendar.

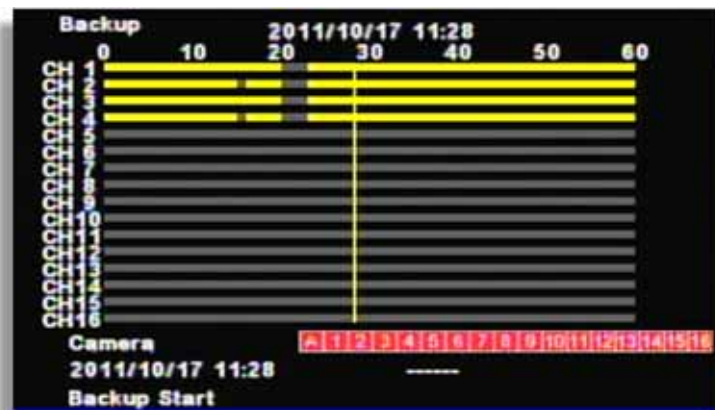


[3] Select the time by double click.



(Channel display could be different per model 4ch/8ch/16ch)

[4] Select the minute. Once you select "-----", the time will be automatically input.

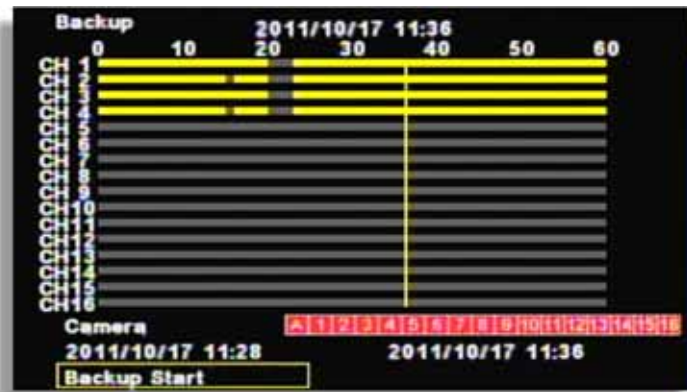


(Channel display could be different per model 4ch/8ch/16ch)

[5] Backup end time selection

- If the backup end time is the same hour, select the minute and click, "-----", the time will be automatically input.
- If the backup end time is the different hour, go back to the previous menu by right button of mouse or, "MENU" button. Then, select the hour/minutes and click "-----" for automatic time input.

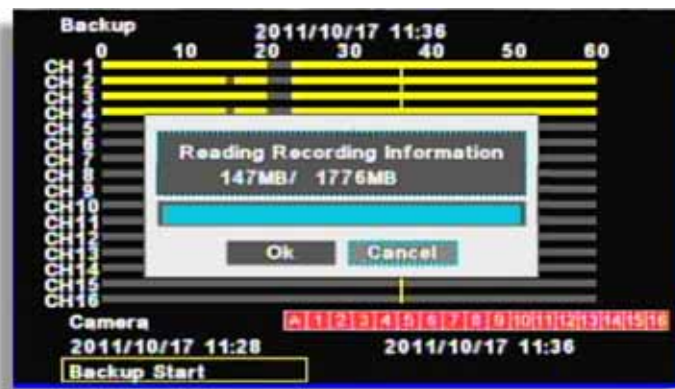
DIGITAL VIDEO RECORDER MANUAL



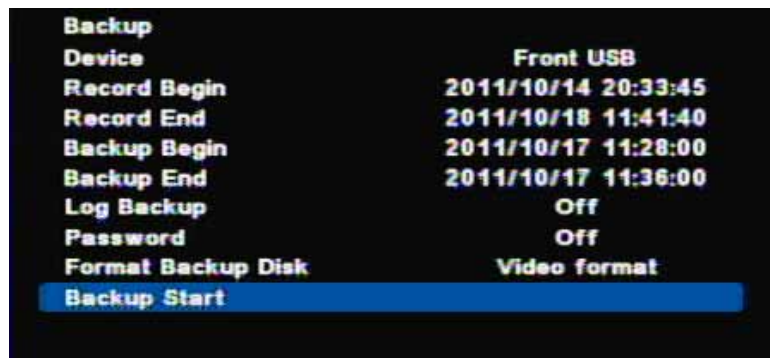
(Channel display could be different per model 4ch/8ch/16ch)

[6] Camera : Select the channel to be backup.(Selected channel will be shown as red)

[7] Backup Start : If all setup is completed, click the 'Backup start' button then, backup starts. It shows the backup capacity/ USB pen drive capacity" so, if everything is OK, click 'OK'.



[8] Before backup, it shows the USB port, backup time then, select OPTION.



DIGITAL VIDEO RECORDER MANUAL

- Log Backup : The log file will be backup together.
- Password : Backup data can be protected by the password.
- Format Backup Disk : Select whether the viewer program will be backup together with data file.
 - Executable format : Viewer program will b backup together
 - Video Format : Only data file will be backup without viewer program

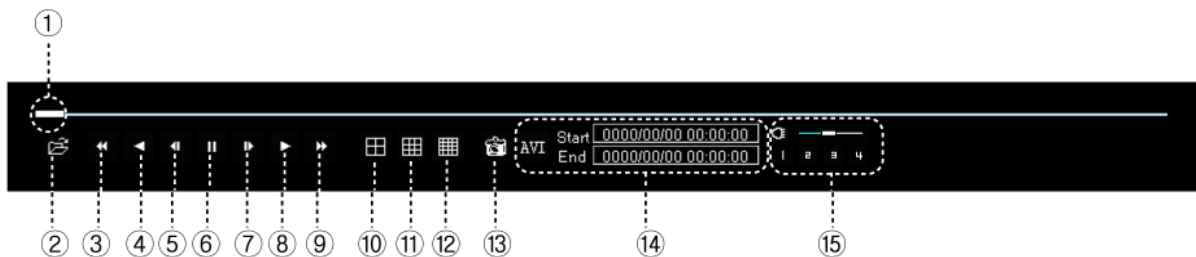
[9] Backup Start : The backup start after click 'OK'



[10] If the backup is completed, you will see the below icon as a file in USB stick. If you click it, playback starts.



[11] How to use the viewer program(If you click the backup file, it runs automatically).



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- ① Scroll bar : It shows the current location from the total playback volume.
- ② Open : To open the other backup file.
- ③ Fast reverse playback
- ④ Reverse playback
- ⑤ One step reverse playback
- ⑥ Pause
- ⑦ One step playback
- ⑧ Playback
- ⑨ Fast playback
- ⑩ 4 split screen
- ⑪ 9 split screen
- ⑫ 16 split screen
- ⑬ Current image capture
- ⑭ When you convert it to AVI . You can click the 'START' and 'END' time(circled space) during playback and if you click 'AVI', it converts to 'AVI' file.
- ⑮ If you click it, you can listen to the recorded audio of selected channel.

12 — Remote Connection-iPhone

12-1 Program Installation

Go to Apple Store website and search and download MPRMS. Then install the MPRMS.

12-2 Program Execution

When the installation is completed, the following icon is created.



Select the Icon and execute it.

12-3 Product Information Registration

Input network information in order to access the DVR a user has.

DIGITAL VIDEO RECORDER MANUAL

[1] New Registration

Execute the program on iPhone and click the new button for new registration.



[2] Input Reg Name



Any name is available to use for Reg Name.

[3] Model name selecting



If it is DVR you would use, select DVR.

[4] Log in



DVR ID : Input the user ID registered in the DVR

Password : Input the password registered in the DVR

(Note : You can check the user ID and password in the DVR Setup Menu)

[5] DVR IP input (Only for static IP user)



Dynamic IP user doesn't make DVR IP input.

(Note) As for Static IP, input the IP address registered on DVR.

[6] DDNS IP Setup (Only for Dynamic IP user)



Static IP user sets it with NO USE

DDNS USE : OFF

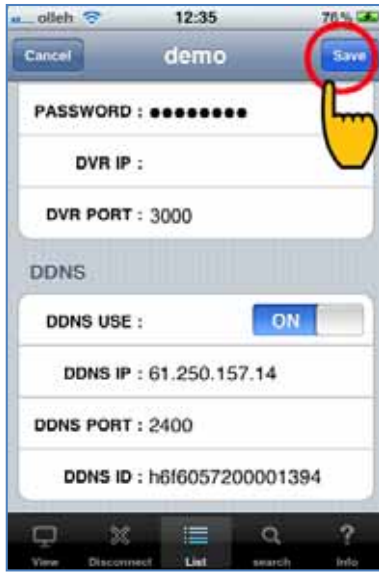
Dynamic IP user sets it with USE

DDNS USE : ON

DDNS ID : Input the web code allocated to each DVR.

(Note : A user should keep their basic setting for DDNS IP and DDNS PORT.

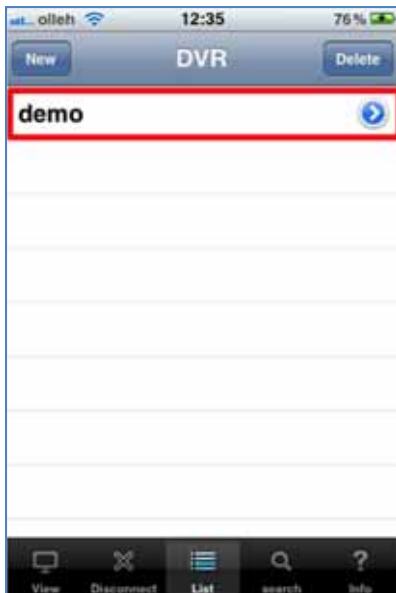
[7] DDNS IP setup (Only for dynamic IP user)



After completing all the inputs, push ADD button then the settings are saved.

12-4 Live Viewing

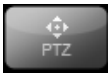
[1] Click the registered DVR name.



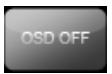
[2] Remote connection



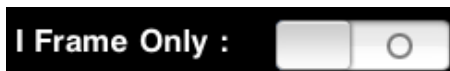
For channel selection, click CH SELECT icon and select the number.



PTZ : Pan/Tilt/Zoom controlling



Remove Time, Resolution, channel info and etc. and display the video only.



It is a still image transmitting function. In case of video disconnection due to network load while transmitting, you'd better use this function.

Full screen view : If you turn iPhone on one side, it switches into full screen.
(If you touch any part of the full screen, a menu is appeared.)

12-5 Search

Select "Search" icon below.



[1] Select Date/Time



After selecting the date, click "Search" button.

[2] Search key operation





Reverse Playback



Pause



Playback



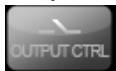
Return to Live



After clicking "CH SELECT" button, if you select a channel number, the channel is selected.

12-6 Relay out

Relay can be controlled remotely..



Time selection : Alarm output time selection.

OFF : Alarm off

Infinity : Unlimited alarm output

12-7 PTZ(Pan/Tilt/Zoom) Controlling

PTZ controlling is available on iPhone. The way how to control is the same with on CMS and DVR.



- (1) Select
- (2) Cancel
- (3) Automatic camera focus
- (4) Pan/Tilt menu call
- (5) Direction movement
- (6) Camera focus control
- (7) Camera zoom control
- (8) Channel selection
- (9) Relay out button (User can set relay out)
- (10) Pan/Tilt menu selection
- (11) OSD display ON/OFF button for live screen

13 — Windows Mobile Viewer

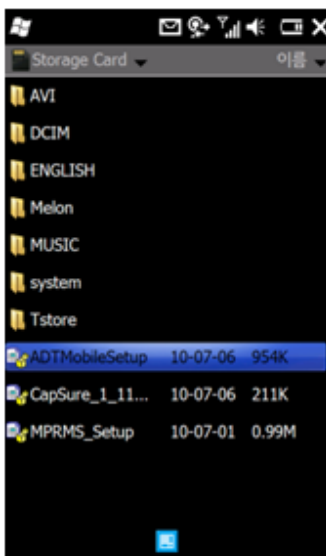
13-1 Program Installation

Copy the program, MPRMS and save it to the mobile phone.

13-2 Run Program

After save the program into the any folder, you can see the "MPRMS_Setup.cab" file as blew picture.

☞ Please refer to the user's manual of mobile phone how to copy and save the application program.



Execute the "MPRMS_Setup.CAB" file then "MPRMS" icon will be created on the screen.



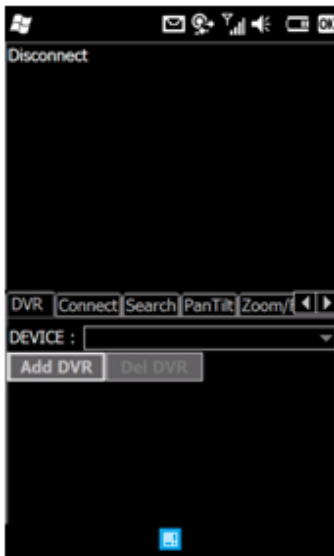
You can see the icon of "MPRMS".

13-3 Registration

In order to see a video on mobile phone, user must register the DVR network information properly. For network setting, please refer to the user's manual of DVR.

[1] Registration

Click the "Add DVR" tap to register a new DVR.



[2] Fill in the required information.

- NAME : Input any name of user's own accord.
- ID : Input the DVR's login ID.
- PASS : Input the DVR's login password.
- MODEL : Select a DVR model among H.264, MPEG-4 and MJPEG.

[3] DDNS

For Dynamic IP user, it supports DDNS service for mobile program.

- Use DDNS : Check on the "Use DDNS".
- ID : Input the "WEB CODE" of DVR. You can find the WEB CODE information in the DVR's System setup menu.

- ADDR : Do not change the dedicated IP address. (61.250.157.14)
- PORT : Input the port of DVR.
- SAVE : Save the information.

[4] STATIC (For Static IP User)



- Use STATIC : Check on the "Use STATIC".
- ADDR : Input the IP address of DVR.
- PORT : Input the port of DVR. (Basic : 3000)
- SAVE : Save the information.

13-4 Connect / Disconnect

[1] Connect



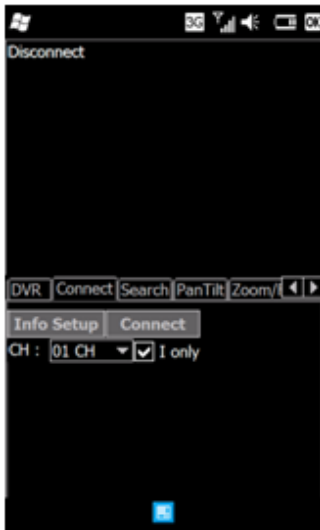
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- Connect : Click the "CONNECT" tap to see the video.
- Info Setup : To modify the DVR information, click the "Info Setup" tap.
- I Only : In case of using low bandwidth, the "I only" helps to see the image which allows to transmit the I Frame only.

[2] Disconnect

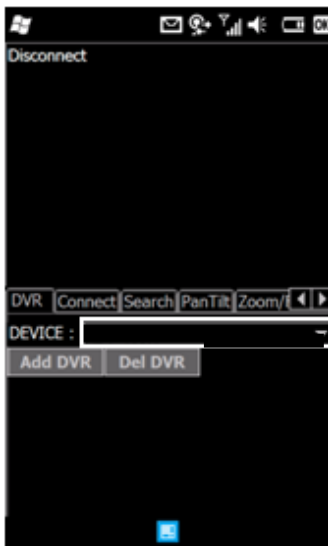
- Disconnect : Click the "Disconnect" to disconnect.

[3] Changing Channel.



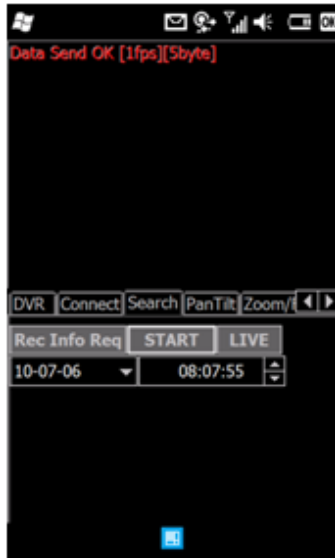
- CH : Click the "▼" to change a channel.

[4] Changing DVR



To connect the other DVR, click the "DVR" tap and select a registered DVR in the "DEVICE". After selecting a DVR, click the "CONNECT" to see video.

13-5 Search



To playback recorded image, click the "Search" tap then click the "Rec Info Req" menu to set the date and time for searching.

After setting the data and time, click the "START" to start playback.

(NOTE : It might be delayed to playback that is depending on network environment.)

13-6 PTZ Control



Click the "Pan Tilt" tap to control the PTZ camera.

Press the direction button to move camera position.

[NOTE : In order to stop moving, user must press the "STOP" button.]

- Left : Move to the left
- Right : Move to the right.
- Up : Move to the upper.
- Down : Move to the down.
- STOP : Stop movement.
- Normal/Invert : Change direction.

13-7 Zoom / Focus



Click the "Zoom/Focus" tap to control zoom In / Out and Focus In / Out.

- ZOOM IN/OUT : Control zooming of camera.
- FOCUS IN/OUT : Control focusing of camera.

13-8 Preset



Click the "Preset" tap to set up the preset of camera.

- P1~P16 : Select a number.
- MOVE / SET
 - ◎ MOVE : After selecting a number among from P1~P16, press "SEND" to move camera location.
 - ◎ SET : After selecting a number among from P1~P16, press "SEND" to set a location of camera.

13-9 Alarm Control



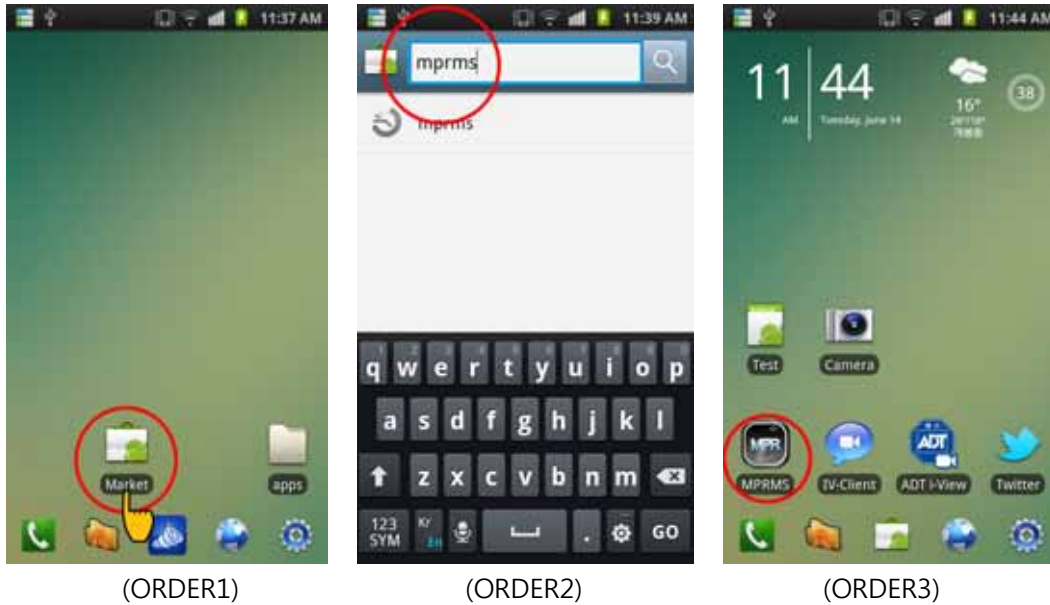
Click the "Alarm" tap to control alarm output.

- Select a number (1~16) : Relay out port. (Default : 1)
- Time : Set a dwell time.
- ON/OFF : Press to start or stop.
(Example : If dwell time is set 5 sec., alarm output works for 5sec. when press "ON" button.)

14 — Remote connection- Andriod phone

14-1 Program installation

To install the program on Phone, execute the 'MARKET' program and download the 'MPRMS' and install it. If the installation is completed, you will see the 'MPRMS' icon on main SCREEN



14-2 Program execution

If you click "MPRMS" icon, it will be executed.



14-3 Product information registration

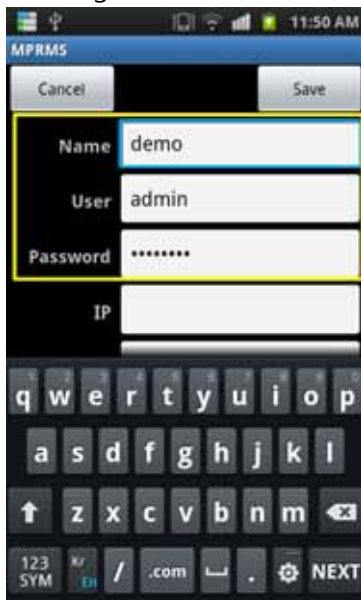
Please register the device to see it remotely

[1] Registration



Click 'ADD' button to start registration.

[2] Input the registration information



(ORDER1)



(ORDER2)



(ORDER3)

(ORDER1) Input the Name, ID(User), Password.

Name : Input any name you want.

User : Input the USER ID.

Password : Input the same password registered on DVR.

(Notice : DVR 'MENU' → "SYSTEM" → PASSWORD → "USER ID" + "PASSWORD")

IP : It is for Static IP user only.

(ORDER2) If you check "DDNS Use", DDNS IP input space will be activated

(Notice : It is for Dynamic IP user only)

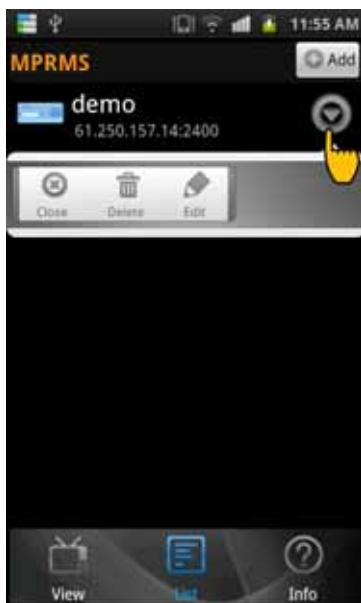
(ORDER 3) How to check the DDNS ID: DVR 'MENU' → "SYSTEM" → SYSTEM INFORMATION.

Copy the 'WEBCODE' and input it to DDNS ID and save it.

(DDNS PORT is automatically displayed as per the WEBCODE.)

14-4 Registered information 'Modify/ Delete'

If you want to modify or delete the information, click the reversed triangle icon.



Edit

When you change the information.



Delete

When you delete the information.



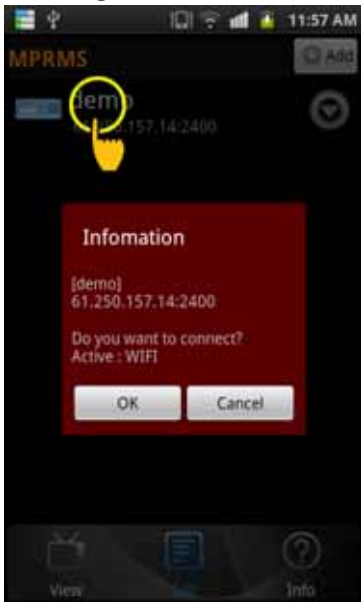
Close

TOOL menu close (Dual function : Disconnection)

14-5 Remote connection

Select the registered list for connection.

Once you click the registered device, it shows information and if you click 'OK', it will connect DVR for monitoring.



(List selection)



(Detailed information)

14-6 Live

It shows the live image as a real-time.



- (1) Numeric button : To select the channel click the numeric button.
- (2) I frame : If the network environment is not good, you can see the 'i' frame only.
- (3) Show OSD : To display the channel name, date, time, event status etc.,

14-7 Main menu

On the bottom line of screen, there is the main menu. It is for the monitoring changes.



Move to the previous menu or close the monitoring program.



Move to live mode(channel changing, I Frame, OSD display)



PTZ mode



PTZ preset



SEARCH mode



RELAY OUT



Registered information

14-8 PTZ

It is for the remote PTZ control.



(PTZ mode selection)

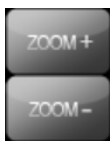


(PTZ mode screen)

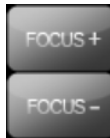
- (1) Move to PTZ mode
Select the PTZ connected channel and click the PTZ button.
- (2) How to control the PTZ



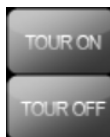
According to the click, PTZ moves to the selected direction.



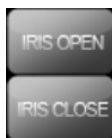
ZOOM. It can be operated by +/-.



FOCUS. It can be operated by +/-.







TOURING. It moves according to the previously registered 'PRESET' number.



IRIS OPEN / CLOSE

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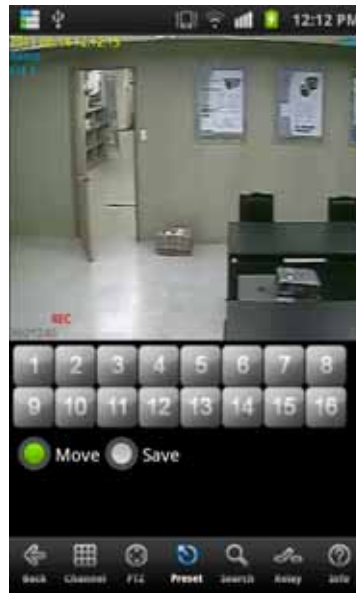
-  PTZ menu call
-  AUTO FOCUS
-  It is OK button for PTZ OSD menu
-  It is CANCEL or upper menu on PTZ OSD menu

14-9 PRESET

It controls PRESET on PTZ.



(PRESET MODE SELECTION)

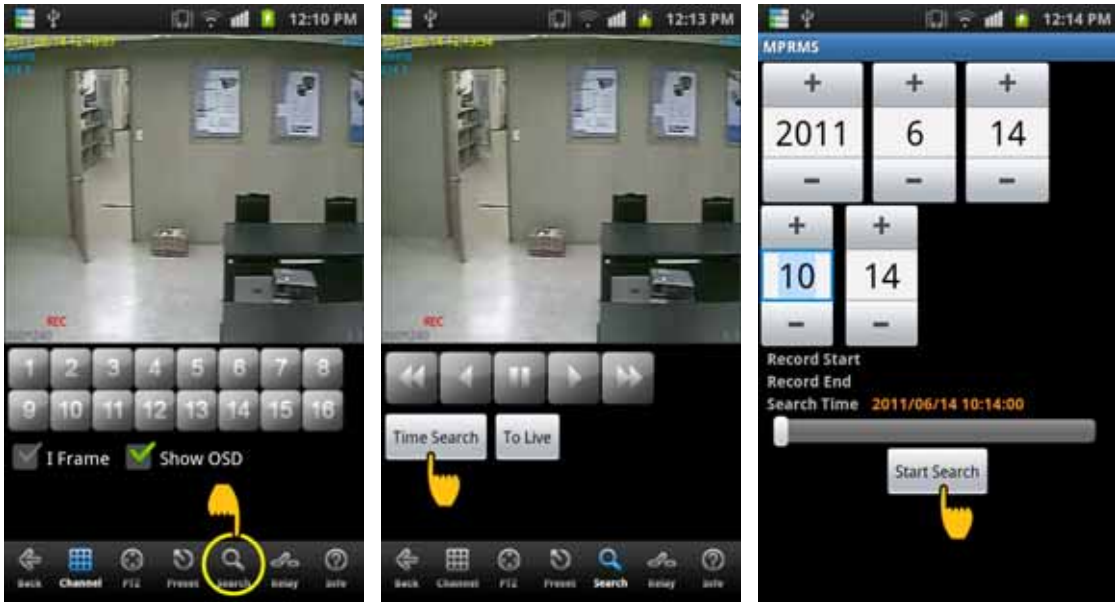


(PRESET MODE SCREEN)

- (1) How to move PTZ mode
Select the PTZ connected channel and click the PRESET button.
- (2) How to move PRESET
 - Move : Once you select "Move", if you select the number, it moves.
 - Save : Once you select "Save", if you select the number, it saves the current location.

14-10 Search

It is for remote search.




(1.SEARCH MODE SELECTION) (2.TIME SEARCH SELECTION) (3.DATE/TIME SELECTION)


(1) SEARCH MODE : Select the SEARCH mode.

(2) Time Search : Click the "Time Search" button to search the time to playback.

(Notice : Return to LIVE, click 'To Live" button.)


(3) DATE/ TIME : Once you select the DATE, TIME, if you click "Start Search", it goes to Playback.

 Fast reverse playback

 Reverse playback

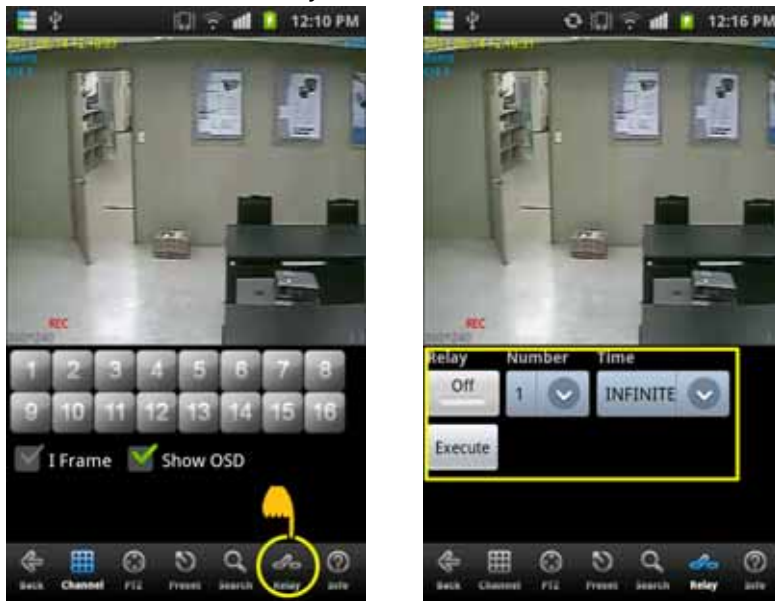
 PAUSE

 PLAYBACK

 Fast playback

14-11 Relay out

Relay can be controlled remotely..



- (1) Relay : Select the usages (on / off)
- (2) Number : Select the relay number.
- (3) Time : Select the relay out duration.
- (4) Execute : According to the setup 1~3, relay out operates

14-12 Information display

It shows the information of current connection.



(info button selection)

(Connection information LIST)

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[Information display]

It is the example of information.

- IP : 61.250.157.37 : 2000 Via DDNS <- Connected IP information.
- MODEL : 16CH(63,ADT CAPS:0) <- 16Ch --- model
- WebCode : H6F6057200001394 <- Product ID(webcode).
- F/W : 84, N/W:21 <- F/W and network version.
- VSTD : NTSC <- VIDEO standard.

14-13 Disconnection

It disconnects the program.



(Back button selection)



(Yes YES button selection)

There are a couple of program termination mode.

1. If you click 'BACK', it asks DISCONNECTION then, you can click YES.
2. Or, you can choose the close button on the phone.

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15 — Appendix

SPECIFICATION

ITEM		4CH	8CH	16CH
Video	Video format	NTSC/PAL		
	Video inputs	4CH	8CH	8CH
	Compression	H.264		
	Video outputs	Composite (1) , VGA (1)		
	Playback	Split Full screen	Split Full screen(1,4,6,9)	Split Full screen(1,4,6,9, 13, 16)
Record	Speed	NTSC : 120fps, PAL : 100fps	NTSC : 240fps, PAL : 200fps	NTSC : 480fps, PAL : 400fps
	Frame	D1 (30 fps) / Half D1 (60 fps) / CIF (120 fps)	D1 (60 fps) / Half D1 (120 fps) / CIF (240 fps)	D1 (120 fps) / Half D1 (240 fps) / CIF (480 fps)
	Event	Continuous, Schedule, Motion, Sensor, Motion+Sensor		
Audio	In/Out	4/1		
Alarm	In/Out	4/1		
Network	Communication	LAN [10/100, Ethernet (RJ45)]		
	CODEC	H.264 (Dual Codec)		
	Protocol	TCP/IP, DHCP		
Other	Remote access	CMS, Web browser		
	P/T/Z control	Yes(RS-485)		
	Backup	USB Pen Drive		
	USB 2.0 support	2 ports		
	HDD	(4/8ch DVR : Max. 1 x internal HDD) / (16ch DVR : Max. 2EA HDD)		
Temp.		0°C ~ 40°C		
Power supply		DC 12V 3.5A, Adapter		
Dimension		4/8CH : 298mm(W) x 57mm(H) x 205mm(D) 16CH : 360mm(w) X 70mm(H) X 350mm(D)		
Unit weight		3.5Kg		

Limited 2Year Warranty

This warranty gives the original purchaser specific legal rights and you may also have other rights, which may vary from state to state. If our products do not function because of any defect in material or workmanship, we will repair it for free for 1 year on parts and labor from the date of original purchase. This warranty does not cover modification, abuse, incidental or consequential damages unless the state of owner's residence specially prohibits limitations on incidental or consequential damages.

How to Obtain Factory Service

- Original purchaser must fill out the warranty card and mail it to the factory with the model number, serial number and the date of purchase.
- We will repair or replace, and return the system to the owner under this limited warranty.
- Please pack the system carefully and securely using the original packing materials, and send it prepaid and insured to: **16000 Carmenita Rd, Cerritos, CA 90703.**
- Please include a check for \$25.00 to cover the cost of return postage and handling. If the system is returned within the warranty period, please include a proof of purchase. If the system is out of warranty, you will receive an estimate of the repair cost for your approval before repair work will be started.

MEMO
